

National Food Security Bill

Challenges and Options

Ashok Gulati, Jyoti Gujral, T.Nandakumar
with
Surbhi Jain, Sourabh Anand, Siddharth Rath, and Piyush Joshi

COMMISSION FOR AGRICULTURAL COSTS AND PRICES
Department of Agriculture & Cooperation
Ministry of Agriculture
Government of India
New Delhi
December 2012

Contact address: agulati115@gmail.com/surbhij18@gmail.com

Ashok Gulati is Chairman and Surbhi Jain is Joint Director in the Commission for Agricultural Costs and Prices, Ministry of Agriculture, Government of India. T.Nandakumar is Member, National Disaster Management Authority (NDMA). Jyoti Gujral is Director, Sourabh Anand and Siddharth Rath are Associate Vice President at IDFC Foundation and Piyush Joshi is Partner, Clarus Law Associates.



Disclaimer

This discussion paper series by CACP is an attempt to encourage unbiased discussion on critical issues affecting agricultural sector and food security. The views expressed through these papers belong purely to author(s) and do not necessarily reflect the views of the organizations they belong to.



Table of Contents

List of Acronyms..... 4

List of Tables 6

List of Figures 7

National Food Security Bill:..... 10

Challenges and Options 10

I. Backdrop 10

II. National Food Security Bill (NFSB) – Main Issues 12

III. Operational Challenges..... 18

IV. Financial Challenges..... 27

V. Macroeconomic Impacts of NFSB Provisions..... 34

VI. Exploring CCTs as an alternative model..... 38

VII. The way forward 41

Annexure I: What is Food and Nutrition Security? 43

Annexure II: Estimates of Leakage from PDS..... 45

Annexure III: Alternate models to TPDS 46

Annexure IV: Financial Obligations of Centre and State under the NFSB..... 50



List of Acronyms

AAY	Antyodaya Anna Yojana
APL	Above Poverty Line
APMC	Agriculture Produce Market Committee
BC	Business Correspondent
BGREI	Bringing Green Revolution to Eastern India
BMI	Body Mass Index
BOOT	Build Own Operate Transfer
BPL	Below Poverty Line
BRIC	Brazil, Russia, India and China
CACP	Commission for Agricultural Costs and Prices
CAP	Covered & Plinth
CCT	Conditional Cash Transfers
CIP	Central Issue Price
CSO	Central Statistics Office
DAC	Department of Agriculture & Cooperation
DCP	Decentralized Procurement System
DES	Directorate of Economics & Statistics, Ministry of Agriculture
DFPD	Department of Food & Public Distribution
EC	Economic Cost
ECA	Essential Commodities Act
FAO	Food and Agriculture Organization
FCI	Food Corporation of India
FPS	Fair Price Shop(s)
FNS	Food and Nutritional Security
FSA	Food Security Allowance
GCF	Gross Capital Formation
GDP	Gross Domestic Product
ICDS	Integrated Child Development Scheme
IFPRI	International Food Policy Research Institute, Washington
KMS	Kharif Marketing Season
MDMS	Mid-Day Meal Scheme
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
MSP	Minimum Support Price
MMT	Million Metric Tonnes
MPI	Multi Dimensional Poverty Index
NAC	National Advisory Council
NBS	Nutrient Based Subsidy Scheme
NFHS	National Family Health Survey
NFSB	National Food Security Bill
NFSM	National Food Security Mission
NSSO	National Sample Survey Organisation
NSEL	National Spot Exchange Limited
NWR	Negotiable warehouse receipt
NCDEX	National Commodity and Derivatives Exchange of India

OMSS	Open Market Sale Scheme
PDS	Public Distribution System
PDSN	Public Distribution System Network
PPP	Public-Private Partnership
RBI	Reserve Bank of India
RCH	Reproductive and Child Health Program
RKVY	Rashtriya Krishi Vikas Yojana
RE	Revised Estimates
RMS	Rabi Marketing Season
RSBY	Rashtriya Swasthya Bima Yojana (RSBY)
TE	Triennium Ending
TPDS	Targeted Public Distribution System
UID	Unique Identity
UIDAI	Unique Identification Authority of India
UNDP	United Nations Development Program
USDA	United States Department of Agriculture



List of Tables

Table No.	Topic	Page No.
<i>Table 1</i>	<i>Right to receive foodgrains at subsidized prices</i>	<i>13</i>
<i>Table 2</i>	<i>Provisions for Nutritional Security and Entitlements to Special Groups</i>	<i>13</i>
<i>Table 3</i>	<i>Average Annual Growth rates during 1990s & 2000s</i>	<i>20</i>
<i>Table 4</i>	<i>Comparative Yield of Paddy & Wheat in 2010</i>	<i>22</i>
<i>Table 5</i>	<i>Estimates of Leakage from TPDS</i>	<i>26</i>
<i>Table 6</i>	<i>Financial obligations for Centre and State as per the proposed bill</i>	<i>28</i>
<i>Table 7</i>	<i>Wheat & Rice requirement under NFSB for 2012-13</i>	<i>31</i>
<i>Table 8</i>	<i>Calculation of cost of NFSB to exchequer</i>	<i>33</i>

List of Figures

Figure No	Topic	Page No.
Figure 1	Foodgrains Production in India (1950-51 to 2011-12)	19
Figure 2	Comparative Performance of Growth of GDP and Agri-GDP	20
Figure 3	Change in Output of Cereals & Coarse Cereals and Deviation of Rainfall from Normal	21
Figure 4	Intra-year Inflation in Rice & Wheat	22
Figure 5	Concentrated procurement of Rice and Wheat (2005-06 to 2011-12)	23
Figure 6	Central Pool Stocks with FCI	24
Figure 7	Food Subsidy – Total & as percentage of GDP-agri (current prices)	29
Figure 8	State –wise Margins in Paddy and Wheat cultivation as a % of C2 costs	30
Figure 9	Rising Procurement Incidentals to FCI	30
Figure 10	Difference between Economic Cost and Issue Price	31
Figure 11	GCF (Public) in Agriculture & Input Subsidies to Agriculture	34
Figure 12	Procurement of Rice & Wheat for Central Pool	36
Figure 13	Bulging Stocks of India's Foodgrains & Rising Imports of Edible Oils	37
Figure 14	Gradual Movement from Physical Handling to Cash Transfers	40
Figure 15	How the Aadhaar System would work	41

Summary

Despite ensuring ample availability of food, existence of food insecurity at the micro-level in the country has remained a formidable challenge for India. The recently introduced National Food Security Bill (NFSB) aims to address this and marks a paradigm shift in addressing the problem of food security—from the current welfare approach to a rights based approach. The central pivot of the Bill is large-scale subsidized grain distribution to almost two-thirds of the country's population of 1.2 billion. This would perhaps be the biggest ever experiment in the world to distribute subsidized grain to achieve food and nutritional security. It implies a massive procurement of food grains and a very large distribution network entailing huge financial expenditure. The long-term feasibility of the envisaged strategy under NFSB needs to be carefully analyzed and debated in the national interest. It is imperative that a holistic approach is adopted while analyzing the entire system of food production, food procurement and distribution of food for achieving food security on sustainable basis.

The Bill, in its present form, throws up major operational and financial challenges and would have enormous ramifications on the cereal economy/markets and therefore Indian agriculture as a whole. It is important to ensure adequate availability of grain with the public authorities to fulfill the underlying obligation in the Bill. Given the current trends and volatility in rates of growth in foodgrain production and yields, the growing pressures on land & water in the wake of climate change, dependence on monsoon rains - there is a possibility that foodgrain availability on sustainable and stable basis would require lot of government intervention in augmenting production, enhancing procurement, and stocking large amounts of grains to meet the commitments of food distribution under this rights approach. This may have several undesirable side effects. The government already procures one-third of the cereals production (which amounts to almost half of marketed surplus of wheat and rice). In several states like Punjab, Haryana, Andhra Pradesh, Madhya Pradesh, and Chhattisgarh, one observes that the state is overwhelmingly dominant in procuring rice and/or wheat, leading to almost a situation of monopsony. Any further increase in procurement by the state would crowd out private sector operations with an adverse effect on overall efficiency of procurement and storage operations, as well as on magnitude of food subsidies and open market prices. This would also slow down or even regress the process of overall diversification in agriculture, and go contrary to the emerging demand patterns in the country. The food subsidy in coming years will balloon due to the lower central issue price of grain, a significant rise in the number of entitled beneficiaries and the need to keep raising the MSP to cover the rising costs of production and to incentivize farmers to increase production of cereals. The existing food security complex of procurement, stocking and distribution would further expand and increase the operational expenditure of the scheme given its creaking infrastructure, leakages (which amount to about 40 percent as per our calculations) and inefficient governance. This raises not only the issue of sustainability of the financial obligations entailed in NFSB, but also its efficacy in trying to extend food security.

NFSB also aims at improving the nutritional status of the population especially of women and children. Women's education, access to clean drinking water, availability of hygienic sanitation facilities are the prime prerequisites for improved nutrition. It needs to be recognised that malnutrition is a multi-dimensional problem and needs a multi-pronged strategy. If we include the costs of creating such a rural and urban infrastructure to tackle malnutrition of children and women at any significant scale, which the country will have to attend to in due course, the financial obligations under the NFSB will be much higher than are indicated in the Draft Bill.

It may be noted that this Bill is being brought in the Parliament to enact an Act when internationally, conditional cash transfers (CCTs), rather than physical distribution of subsidized food, have been found to be more efficient in achieving food and nutritional security. Literature on best practices around the world shows that 'income policy' approach rather than 'price policy' is much more efficient in achieving equity ends and this has been adopted successfully by many countries across the world like Brazil, Mexico, and Philippines etc.

This paper, based on a thorough analysis of the various plausible implications of the NFSB, suggests that India learns from the global best practices, and adapts them to Indian conditions to put an Indian signature to this scheme with a view to tackle its food and nutritional security concerns. This can be done by allowing enough flexibility in the NFSB to innovate and evolve into such a CCT scheme, using the globally acclaimed expertise of India in IT and Aadhaar, to connect to and pull those at the bottom of economic pyramid. This can be started first in 33 cities of more than one million population which already have reasonable financial infrastructure and setting up of micro-ATMs (one million micro-ATMs will cost only Rs 15 billion) and gradually extending this to all cereal surplus states and then to deficit ones wherever possible. Physical delivery of grains in remote areas or extremely deficit states can still go on, if the state feels it is necessary to carry its obligations that way. In this context, the recently announced policy of cash transfers for some 29 schemes — excluding food and fertilizers' subsidy — in 51 districts in 15 states from 1st January, 2013 and the 'Dilli Annashree Yojana' announced by the Delhi Government are bold steps in the right direction.

This approach, i.e., using the right policy instrument (income policy rather than price policy) and right technology (IT) to reach the poor, we feel, will not only empower the poor but also allow the grain markets to function properly, allow natural process of diversification and growth in agriculture, and save ample resources by plugging in leakages and allowing private sector to handle physical movement and storage of grains. These savings then can be used to further enhance the welfare and productive capacity of targeted groups through education, immunization, skill developments, etc. That would contribute significantly in providing long term food and nutritional security to the poor on sustainable basis. Thus, wisdom lies in making NFSB sufficiently flexible, permitting innovations and evolution to more efficient systems. After all India is a very large and diverse country, and one size may not fit all the states/districts of India!

National Food Security Bill: Challenges and Options

I. Backdrop

1. India has been quite successful in ensuring ample availability of food in the country, be it basic staples like rice and wheat or other food products like edible oils, pulses, fruits and vegetables, milk and milk products, eggs, meat and fish, etc. Most of these are produced within the country to meet the consumption demand, with some surplus being exported (like that of rice where India has emerged as the largest exporter in 2012), and in others reliance is on imports (like edible oils and pulses). But making food available is only one aspect of food security, though an important one. The others are economic access to food and its absorption by people for better nourishment. It is here that India has faced its biggest challenge and paradox. Despite buoyant economic growth in recent years, around one-third of India's population, i.e 400 million people, still lives below the poverty line (in 2010) as per World Bank's definition of USD 1.25/day. Using the multi-dimensional poverty index (MPI¹) of UNDP, India ranks at 75 among 109 countries in 2011, much worse than the other BRIC countries²- indicating extent of deprivation in terms of living standards, health, and education. According to National Family Health Survey (NFHS-3) conducted in 2005-06, 20 per cent of Indian children under five years old were wasted (acutely malnourished) and 48 per cent were stunted (chronically malnourished). The HUNGaMA (Hunger and Malnutrition) Survey conducted by Nandi Foundation³ conducted across 112 rural districts of India in 2011 showed that 42 percent of children under five are underweight and 59 percent are stunted. All these estimates point to the existence of food insecurity at the micro-level in terms of either lack of economic access to food or lack of absorption of food for a healthy life.

2. As is well known, FAO (2002)⁴ defines food security as: *"Food security [is] a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life"*. As per USDA⁵, food-insecure people are defined as those consuming less than the nutritional target of roughly 2,100 calories per day per person. *India is the frontrunner with 246 million food-'in'secure people and accounts for close to 30% of the total food insecure people in developing countries.* Growth alone, though essential, may not be sufficient at least in the short run to ensure food security for the poor and vulnerable, who spend almost 60% of their

¹ MPI indicates the share of the population that is multi-dimensionally poor adjusted by the intensity of deprivation in terms of living standards, health, and education.

² Brazil rank 26; Russia rank 10; China rank 45

³ <http://www.naandi.org/CP/HungamaBKDec11LR.pdf>

⁴ The State of Food Insecurity in the World 2001, FAO

⁵ International Food Security Assessment, 2011-21, USDA

expenditure on food. These people need a safety net targeting economic access to food and its absorption.

3. The recently introduced National Food Security Bill, 2011 (NFSB), aims to address this formidable challenge. The proposed legislation marks a paradigm shift in addressing the problem of food security from the current welfare approach to a rights based approach. Besides expanding the coverage of the Targeted Public Distribution System (TPDS), the proposed legislation would confer legal rights on eligible beneficiaries to receive entitled quantities of foodgrains at highly subsidized prices. It will also confer legal rights on women and children and other Special Groups such as destitute, homeless, disaster and emergency affected persons and persons living in starvation, to receive meals free of charge or at an affordable price. But the central pivot of the Bill is large-scale subsidized grain distribution to almost two-thirds of the country's population of 1.2 billion. This would perhaps be the biggest ever experiment in the world to distribute subsidized grain to achieve food and nutritional security. It implies a massive procurement of food grains and a very large distribution network entailing huge financial expenditure.

4. The current Bill creates a statutory entitlement for the included population and its obverse namely a legal obligation for the government. Therefore, it is important to ensure adequate availability of grain with the public authorities to fulfill the underlying obligation. Given the current trends in rates of growth in foodgrain production & yields, and the growing pressures on land & water in the wake of climate change, there is a possibility that foodgrain availability on sustainable basis becomes a constraint. With 60 percent of India's farmland dependent on monsoon rains, drought years can slash production and force the country to import large quantities. The government already procures one-third of the cereals production and any increase in procurement will have enormous ramifications on the cereal economy/markets and would crowd out private sector operations with a consequent effect on open market prices.

5. The food subsidy in coming years will balloon due to the lower central issue price of grain, a significant rise in the number of entitled beneficiaries and the need to keep raising the Minimum Support Price (MSP) to cover the rising costs of production and to incentivize farmers to increase production. The existing food security complex of procurement, stocking and distribution would further increase the operational expenditure of the Scheme given its creaking infrastructure, leakages & inefficient governance. This raises the issue of sustainability of the financial obligations entailed in NFSB.

6. It may be noted that this Bill is being brought in the Parliament to enact an Act when internationally, conditional cash transfers (CCTs), rather than physical distribution of subsidized food, have been found to be more efficient in achieving food and nutritional security⁶. Literature on best practices around the world shows that 'income policy' approach rather than

⁶ Special Evaluation Study on ADB's Social Protection Strategy, October 2012

‘price policy’ is more efficient in achieving equity ends and this has been adopted successfully by many countries across the world. Brazil is a classic example of this - the *Bolsa Familia* programme, world’s largest conditional cash transfer program, has lifted more than 20 million Brazilians out of acute poverty and also promotes education & health care. It is imperative that India learns from these social safety net experiences and evolves an innovative strategy that is based on more effective and appropriate policy instruments to enhance social and economic welfare.

7. The issues raised above require careful scrutiny and assessment of the various provisions and operational guidelines of NFSB. This paper delves into most of these issues and their implications. The provisions of NFSB are carefully studied and some of the weak links in the Bill have been brought out with a view to find an appropriate solution to those. An attempt is also made to assess the operational and financial challenges thrown up by the Bill and its macroeconomic impact on the agricultural economy. The paper then suggests various options and instruments, which could be gradually dovetailed to make this Bill much more effective and efficient.

II. National Food Security Bill (NFSB)⁷ – Main Issues

8. NFSB has a laudable objective of eradicating hunger and malnutrition from India in the shortest possible time. The proposed legislation marks a paradigm shift in addressing the problem of food security—from the current welfare approach to a rights based approach. It is therefore important to get it right, not just in terms of making it a legal entitlement under the “rights approach” but making it a success on the ground.

II.1 Rationale

9. The rationale for the Bill is best summarized by the following excerpts from the Bill:
“Article 47 of the Constitution, inter alia, provides that the State shall regard raising the level of nutrition and the standard of living of its people and the improvement of public health as among its primary duties. Eradicating extreme poverty and hunger is one of the goals under the Millennium Development Goals of the United Nations.”⁸ and

“In pursuance of the constitutional obligations and obligations under the international conventions, providing food security has been focus of the Government’s planning and policy. Food security means availability of sufficient food grains to meet the domestic demand as well as access, at the individual level, to adequate quantities of food at affordable prices”.

⁷ Full text available at <http://dfpd.nic.in/fcamin/FSBILL/food-security.pdf>

⁸ Excerpts from NFSB 2011 - Statement of Objects and Reasons

II.2 Salient features

10. The objective of the Bill is “to provide for food and nutritional security in human life cycle approach, by ensuring access to adequate quantity of quality food at affordable prices to people to live a life with dignity”. In line with the stated objective, the Bill provides a legal entitlement to receive foodgrains at subsidized prices by persons belonging to priority households and general households under TPDS. The entitlement shall be provided up to 75% of the rural population and up to 50% of the urban population (Table 1)⁹. Further, in order to improve the nutritional security, the NFSB brings various other ongoing welfare schemes of the government under one umbrella (Table 2).

Table 1: Right to receive foodgrains at subsidised prices

	Priority	General
Foodgrains Entitlement	7 kg per person per month	3 kg per person per month
Price ¹⁰	Not exceeding Rs. 3 per kg for rice, Rs. 2 per kg for wheat and Rs. 1 per kg for coarse grains	Not exceeding 50% of the MSP for wheat & coarse grains; not exceeding 50% of derived MSP for rice.
Coverage		
Rural population - Upto 75%	At least 46% of rural population	Up to 29% of rural population
Urban population - Upto 50%	At least 28% of urban population	Up to 22% of urban population

Source: NFSB Bill, 2011-As introduced in Lok Sabha

Table 2: Provisions for Nutritional Security and Entitlements to Special Groups

Target Group	Entitlement
Pregnant woman/ Lactating Mother	Meal, free of charge, during pregnancy and six months after child birth Maternity benefit of Rs 1000 per month for a period of six months
Children (6 months-6 yrs)	Age appropriate meal, free of charge, through the local <i>anganwadi</i>
Children (6 years-14 yrs)	One mid-day meal, free of charge, everyday, except on school holidays, in all schools run by local bodies, Government and Government aided schools, up to class VIII, so as to meet the nutritional standards
Children suffering from Malnutrition	Meals through the local <i>anganwadi</i> , free of charge
Destitute persons	At least one meal every day, free of charge
Homeless persons	Affordable meals at community kitchens
Emergency and disaster affected persons.	Two meals, free of charge, for a period up to 3 months from date of disaster
Persons living in starvation	Free Meals, two times a day, for 6 months from date of identification;

Source: NFSB Bill, 2011-As introduced in Lok Sabha

⁹ The newspaper reports suggest that in a revised version of the Bill, it is proposed that the categorization of priority households and general households be removed with 67 percent coverage of the entire population. The income criterion is also proposed to be amended and 5 kg food grain per person per month shall be allocated across the board excluding the upper middle class and the rich paying income tax. However, in this paper we will work on the version that was tabled in the Parliament.

¹⁰ as specified in Schedule I

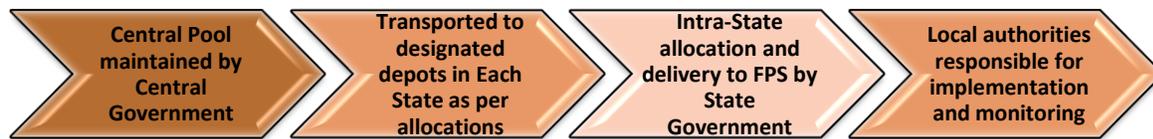
11. Apart from this, the Bill also proposes the following steps¹¹:

- *Revitalisation of Agriculture*: increase in investments in agriculture, including in research & development, ensuring remunerative prices, credit to farmers, crop insurance, etc;
- *Procurement, storage and movement related interventions*: incentivizing decentralized procurement including procurement of coarse grains, augmentation of adequate decentralized modern and scientific storage etc;
- *Reforms in TPDS*: application of information and communication technology tools to improve PDS system, leveraging ‘Aadhaar’ for unique identification of beneficiaries for proper targeting of benefits under this Act etc, ensure transparency¹²;
- *Others*: Provision of safe and adequate drinking water and sanitation, nutritional health and education support to adolescent girls, senior citizens, persons with disability and single women.

II.3 Proposed Modus Operandi

12. To operationalize NFSB, the Central Government would procure foodgrains for the central pool through its own agencies, the State Governments & their agencies; allocate foodgrains to the States as per the defined entitlements and at prices specified; provide for transportation of foodgrains to the designated depots in each State; and create & maintain required modern and scientific storage facilities at various levels¹³. Under TPDS, it shall be the duty of the State Government to take delivery of food grains from the designated depots of the Central Government in the state at the prices specified in Schedule I, organize intra state allocations for delivery of such food grains through their authorized agencies at the door step of each fair price shop (FPS) and ensure actual delivery of food grains to the entitled persons at the prices specified in Schedule I¹⁴. The local authorities shall be made responsible for proper implementation of the proposed legislation in their respective areas, to conduct periodic social audits on the functioning of fair price shops, TPDS and other welfare schemes, and publicize its findings and take necessary action¹⁵.

Modus Operandi under NFSB



Source: Compiled from NFSB, 2011-As introduced in Lok Sabha

¹¹ Section 39 & Schedule III

¹² Clause 18

¹³S. 30 NFS Bill

¹⁴ S. 32, NFS Bill

¹⁵s.33-37 NFS Bill

13. For the efficient operation of TPDS, every State Government shall create and maintain: (i) scientific storage facilities at the state, district and block levels being sufficient to accommodate food grains required under the targeted PDS, and other food based welfare schemes; (ii) suitably strengthen capacities of their food and civil supplies corporations and other designated agencies; and (iii) establish institutionalized arrangements for fair price shops within the state in accordance with the provisions of the PDS (Public Distribution System (Control) Order, 2001)¹⁶. Provisions have also been made in the Bill for transparency and accountability including disclosure of records relating to PDS, and social audits and setting up of Vigilance Committees besides an elaborate grievance redressal mechanism to ensure that the benefits reach the rightful persons, failing which they can approach grievance redressal bodies that are proposed to be set up for this purpose.

14. In the event the Central Government is not able to provide the foodgrains to the State Government from the central pool due to any shortfall in the central pool, the Central Government would provide funds to the State Government to the extent of the shortfall, as may be prescribed by the Central Government itself¹⁷. The State Governments are responsible for implementation and monitoring of schemes of the Central Government as well as their own schemes for ensuring food security to the targeted beneficiaries of their states¹⁸.

II.4 Contentious Issues in the bill

It is worth noting here that NFSB, in its current form, throws major challenges as in:

a) Where is the food at the time of a crisis?

15. The Bill provides for a *Force Majeure* clause (Clause 52) that “*the Central Government, or the State Governments, shall not be liable for any claim by persons belonging to the priority households or general households or other groups entitled under this Act for loss/damage/compensation, arising out of failure of supply of foodgrains or meals when such failure of supply is due to conditions such as, war, flood, drought, fire, cyclone, earthquake or any act of God.*”

16. This is an exemption for both Central and State Government for failure to supply food grains when such failure is either "directly or indirectly" on account of *force majeure*. It provides immunity to both the Centre and the States against any claim by beneficiaries entitled under this Act for loss, damage, or compensation arising out of failure of supply of foodgrains or meals in *force majeure* conditions which have been defined widely, including droughts and floods, which are likely to increase in intensity and frequency due to climate change effects. *It is worthwhile to note that precisely in these conditions a failure of market forces, volatility in prices and resultant distress is expected and at times like this the poor and vulnerable would depend on government to ensure their food security. While there may be exceptional*

¹⁶ S. 32, NFS Bill

¹⁷s. 31 NFS Bill

¹⁸ S. 32, NFS Bill

circumstances warranting such an exception, such exceptions should be restricted to situations where all efforts fail...like in a situation where neither transportation by road nor by helicopter is possible. Drought does not qualify under this criterion and needs to be removed from the list. This clause needs redrafting.

b) NFSB imposes a highly centralized model discouraging customized state level initiatives

17. The draft bill in the current shape gives a legal sanction to a highly centralized procurement and distribution model. All guidelines, rules etc will be prescribed by the Centre including criteria for priority households, exclusion criteria, reforms in TPDS, price at which the State Government is required to sell the food grains to the entitled persons – to name a few. It leaves no room for experimentation/customization for the States suited to their specific choices, institutional strengths and weakness.

18. Once the Act comes into effect the existing schemes pursued by the states will suffer considerably. For example, Tamil Nadu (TN) follows a "Universal PDS" system with no BPL/APL classifications – which is different from TPDS. But under NFSB, TN would have to put an end to this system. Currently, State Governments can adopt their own PDS structures as the PDS System is governed by PDS (Control) Order, 2001 under the Essential Commodities Act (ECA), 1955. ECA empowers the State Governments to issue orders there under for their relevant state. *The NFSB however creates a new statutory framework governing the PDS.* PDS systems in States will have to first comply with the NFSB and in the event of a conflict between NFSB and ECA, the provisions, rules, regulations and orders issued under the NFSB will override the provisions, rules, orders issued under the ECA.

19. Section 40 of the NFSB allows State Governments to design their own schemes but it is rendered practically ineffective as it essentially imposes an obligation on the State Government to procure food grains from FCI only for TPDS¹⁹ and procure for its own system separately- for which literally there would be not much grain left. It would additionally impose a financial burden on the states as they will need to procure the entire requirement of food-grains at their own cost and pay through the state treasury rather than incrementally subsidize the same.

c) Centralized Procurement has been found to be unsustainable

20. NFSB mandates Central Government to procure for the Central Pool. State Governments are responsible for further distribution. Decentralized Procurement System (DCP) was introduced in 1997-98 in view of the practical difficulties faced by the Central Government/FCI to procure on its own. Under DCP, States were invited to assist in the procurement and distribution of foodgrains under the TPDS. This experiment has been quite successful in Madhya Pradesh & Chhattisgarh as far as augmenting the level of procurement is concerned. Both these states have taken initiative to open large number of procurement centres and dramatically increased the procurement of paddy in Chhattisgarh and wheat in Madhya Pradesh, almost

¹⁹ Sec 32, NFS Bill

leading to state monopsony in procurement of these crops. *NFSB seems to be suggesting a retrogressive step of going back to centralized procurement model which was found unsustainable in the first place.* 17

d) Consolidation of the existing ineffective Food Security Complex

21. NFSB gives the existing PDS and procurement system a new lease of life in an “as is where is” condition despite its established ineffectiveness and leakages. For fulfilling its goal of food security, it heavily relies on the current institutions which already have had a chequered history of failure. The estimated leakages from the TPDS go as high as 40 percent (refer Annexure II). The existing system of TPDS needs to be reformed for efficient delivery of foodgrains but the norms and types of reforms are to be decided by the Central Government. This would bring the ongoing PDS reforms in States like Chhattisgarh and Haryana to a halt.

e) Distribution of Obligations between Centre & State

22. The Central government has limited its responsibility to procurement for the central pool and delivery to the State government for distribution through the TPDS. The State Government is made responsible for collection of foodgrains from FCI depots and further ensure that the legal entitlements are enforced. NFSB directs cost sharing in overheads, survey costs and for welfare schemes. *If the Central Government is unable to provide foodgrains from its Central Pool, it has to provide funds to the extent of short supply of food grains from its central pool to the State Government²⁰- that also as determined by itself. But if the State Government is unable to provide the entitled grains, then it has to pay a “Food Security allowance” to the excluded beneficiaries. How will the state governments distribute that cash to ultimate beneficiaries without having developed a proper financial structure for that remains unclear.*

f) Food Security Allowance (FSA): Unclear Provisions

23. Section 13 of NFSB stipulates that in case of non-supply of the entitled quantities of food grains or meals to entitled persons under the bill, such persons shall be entitled to receive such *food security allowance* from the concerned State Government in such time and manner as stipulated by the Central Government.²¹ This entails that the State would have to provide the entire administrative back up for the food security allowance/decentralized procurement triggered in case of failure by the Central Government and distribution, which would then cost the State additionally. This would have large financial implications for the State Governments.

24. The amount payable would depend entirely on the rules framed in respect of the same. The statute does not mandate that the allowance has to be suitable to enable the relevant entitled persons to obtain the food grains from the market. Since the entitlement is essentially to obtain the identified food grains at the subsidized prices specified in Schedule-I, if FSA is according to these prices (much lower than market prices), then this monetary support during

²⁰ Section 31

²¹ S. 13, NFS Bill.

distress conditions would be grossly insufficient to buy foodgrains from the market. Whether this FSA would be triggered in case of Force Majeure is also unclear.

g) No clear roadmap for benefits to “general households”

25. The entitlements of persons belonging to “general households” have been linked to such reforms in the PDS, and from such date as prescribed by the Central Government.

h) Cereal-centric approach

26. Though cereals are central to the issue of food security, diversifying demand patterns to protein rich items also needs to be appreciated. NFSB deals only with supply of cereals ignoring the demand side of food consumption. In this context, it is worth noting that the latest consumption data of NSSO shows that in each decile expenditure group, the per capita consumption of cereals has been falling. Thus, while NFSB will try to make the production basket cereal-centric, diversifying demand will throw pressures on non-cereal segment, creating an imbalance in demand and supply of food items. This will lead to higher inflationary pressures and imports of non-cereal foods, especially edible oils, pulses, fruits and vegetables, protein foods, etc.

i) Missed opportunity to promote the income approach to food security

27. Global experience on social safety net programmes show that food coupons/vouchers, CCTs are better alternatives than transfer of food. Globally, countries have moved away from physical handling of grains and used such alternatives based on income approach for improving economic access to food. NFSB could have inbuilt flexibility in it for States to experiment with such an approach. Some of these issues should be taken care of in the rules framed under the Act.

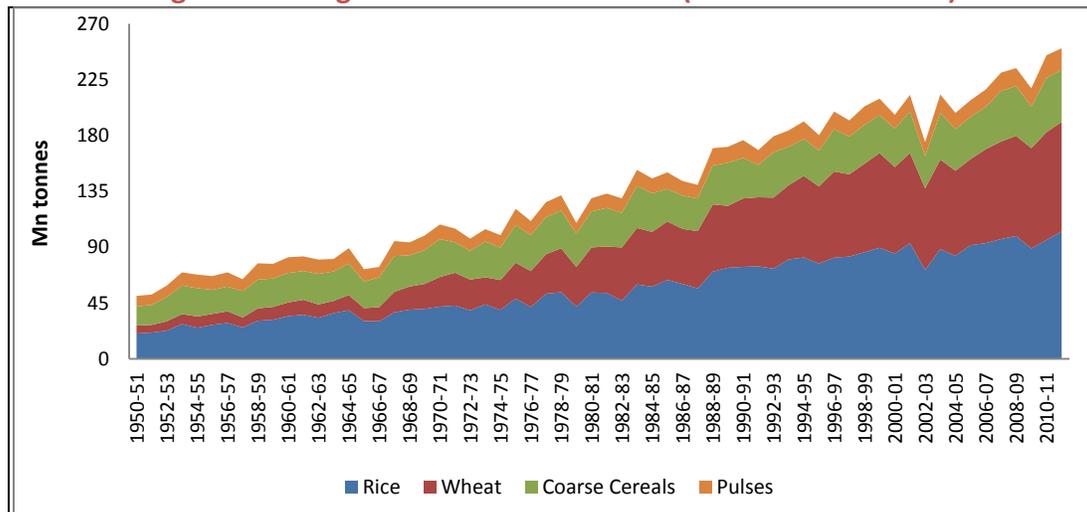
III. Operational Challenges

28. The existing system of foodgrain management is characterized by the dominant presence of the government in all the basic aspects of marketing viz., procurement, storage, transport and distribution, with all these operations being bundled and carried out by the FCI. Currently, FCI’s operations are intended to build buffer stocks to meet any exigency, open market purchase/sales to stabilize domestic prices and provide food security requirements through sale of subsidized grain. It procures, mainly wheat and rice, for the Central Pool at the MSP announced by the Government and distributes it through the State managed PDS. In addition, several states procure directly for decentralized procurement and distribution. Over the years inefficiencies have been evident in the operations of FCI through concentration of procurement operations to a handful of States, an ever increasing central pool of stocks and growing diseconomies of scale. The following sections elaborate the mammoth operational challenge thrown up by NFSB as it would entail a huge procurement/distribution infrastructure.

(a) Production

29. Since the NFSB creates a statutory entitlement for the included population and its obverse namely a legal obligation for the government, it is important to ensure adequate availability of grain with the public authorities. Attainment of self-sufficiency in food grains at the macro level has been one of the country's major achievements in the post-independence period. The production of food grains increased from 51 million tonnes in 1950-51 to 108.4 million tonnes in 1970-71 and has touched 257 million tonnes in 2011-12 (Figure 1). Production of rice has increased by almost five times since independence from 20.6 million tonnes in 1950-51 to 104.3 million tonnes in 2011-12. Production of wheat has increased manifold since independence from 6.5 million tonnes in 1950-51 to 93.9 million tonnes in 2011-12. India has also been a net exporter of cereals for most years since 1990. The per capita availability of foodgrains has increased from 394.9 gms per day in 1951 to 438.6 grams per day in 2010. It should be noted here that as economic growth picks up, it is common to observe a change in dietary patterns wherein people substitute cereals with high-value food.

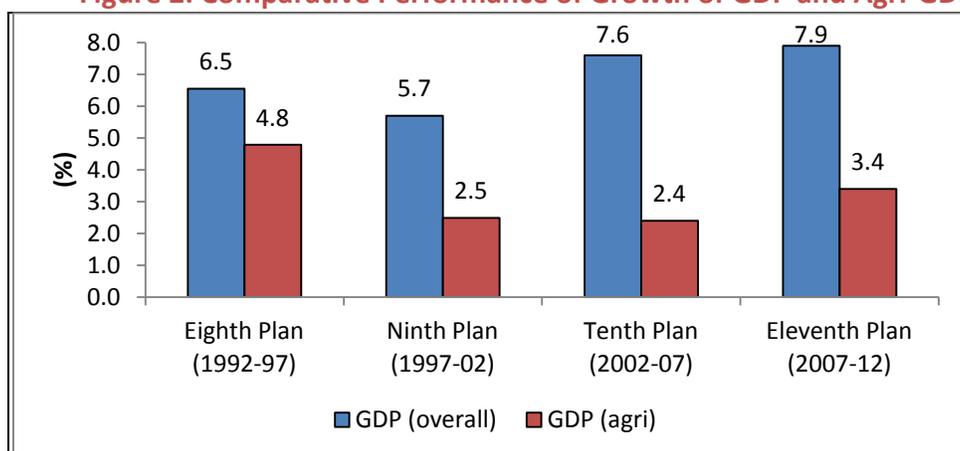
Figure 1: Foodgrains Production in India (1950-51 to 2011-12)



Source: Directorate of Economics & Statistics (DES), Ministry of Agriculture

30. Agriculture has been growing at a trend rate of growth of 2.9% during 1991-92 to 2011-12—much lower than the targeted 4% in the Five Year Plans. The increasing divergence between the growth trends of the total economy and that of agriculture and allied sectors during the Plan periods suggests underperformance by agriculture (Figure 2). The average growth rate of foodgrain output has declined from 2.2 percent in 1990s to 1.8 percent in 2000s. Similarly, growth rate of yield of foodgrains has declined from 2.4 per cent in 1990s to only 1.3 percent in 2000s (Table 3).

Figure 2: Comparative Performance of Growth of GDP and Agri-GDP



Source: CSO; Data at 2004-05 prices

Table 3: Average Annual Growth rates during 1990s & 2000s

Crop	Area		Production		Yield	
	1990s	2000s	1990s	2000s	1990s	2000s
Foodgrains	-0.3	0.3	2.2	1.8	2.4	1.3
Total Cereals	-0.1	-0.2	2.3	1.7	2.4	1.6
Rice	0.7	-0.5	2.1	1.3	1.4	1.5
Wheat	1.6	0.6	4.5	1.3	2.9	0.6
Coarse Cereals	-2.4	-0.4	-0.1	4.6	2.0	4.6

Source: Based on Calculations from Data available from DES

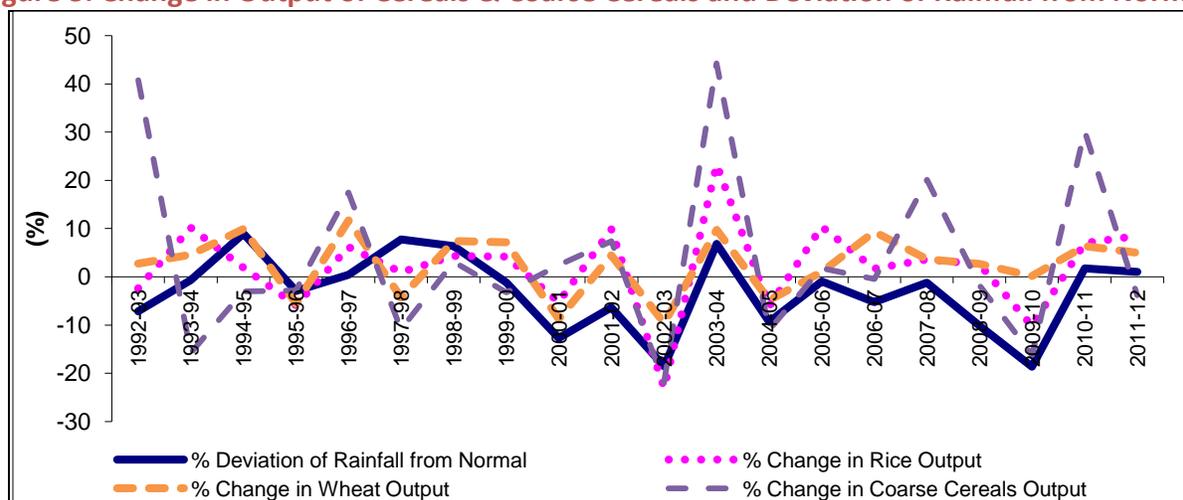
31. Indian agriculture has not witnessed any major breakthrough since the Green Revolution which focused on the two cereals (wheat and rice) and concentrated on north-western India. Punjab and Haryana are the two states that contribute the largest to foodgrains production but this is at the cost of annual negative balance in the ground water reserves for these states. According to the latest assessment of ground water situation in India (CGWB 2009-10), 75% blocks in Punjab are overexploited, only 18% are considered safe. As a step towards demand management of water, a gradual shift of these water guzzling crops from North-Western India to Eastern States is required. Under 'Bringing Green Revolution to Eastern India' (BGREI), eastern States like Bihar, Madhya Pradesh & West Bengal are emerging as large producers but gross lack of marketing and procurement infrastructure has caused distress to farmers despite record production. This raises doubts on the sustainability of production without commensurate investments in agri-infrastructure, especially marketing..

Volatility in Production

32. Volatility in food systems due to exogenous shocks from weather related events or instability in international markets compromises national food security. While India has achieved much in augmenting food grain production, especially of rice and wheat, curbing volatility in year-to-year production remains a critical challenge (Fig 3). The volatility in coarse cereals is much higher than that of rice and wheat, intensifying the pressure on rice & wheat in

drought years. Indian agriculture is still highly dependent on rainfall and drought years cause production and stock declines which can take a couple of years to be made up. A case in point is the drought year 2002-03 where the production of wheat and rice fell by 28.5 million tonnes over the previous year (overall foodgrain production dropped by 38 million tonnes). It took 3 years to make up and it was only in 2006-07 that the production exceeded the 2001-02 level. With the gross irrigated area as a percent of gross cropped area having increased from 34% in 1990-91 to 45.3% in 2008-09²², agriculture now has better capacity to bear the brunt of deficit rainfall. However, more than 50% area under cultivation is still at the mercy of monsoons. Further, the sustainability of irrigation is also significantly dependent on rainfall. Increasing resilience of Indian agriculture against drought and managing water resources sustainably remains a formidable challenge.

Figure 3: Change in Output of Cereals & Coarse Cereals and Deviation of Rainfall from Normal



Source: DES

Yield

33. India is currently the second largest producer of both wheat & paddy but its productivity levels are still lower than the world average and that of major producing countries, as shown in Table 4. The challenge before India is to raise the productivity of its basic staples like rice & wheat with increasing pressure of urbanization and industrialization on land and water availability (currently more than 60% of cropped area is under grains and more than 80% of water resources is used for irrigation in agriculture²³). Increase in foodgrain production will have to come from investment in productivity enhancing technologies in irrigation, power, fertilizers, seeds and post harvest technology to reduce losses.

²² Source: Agricultural Statistics at a Glance, 2011

²³ Water & Related Statistics 2010, Central Water Commission

Table 4: Comparative Yield of Paddy & Wheat in 2010

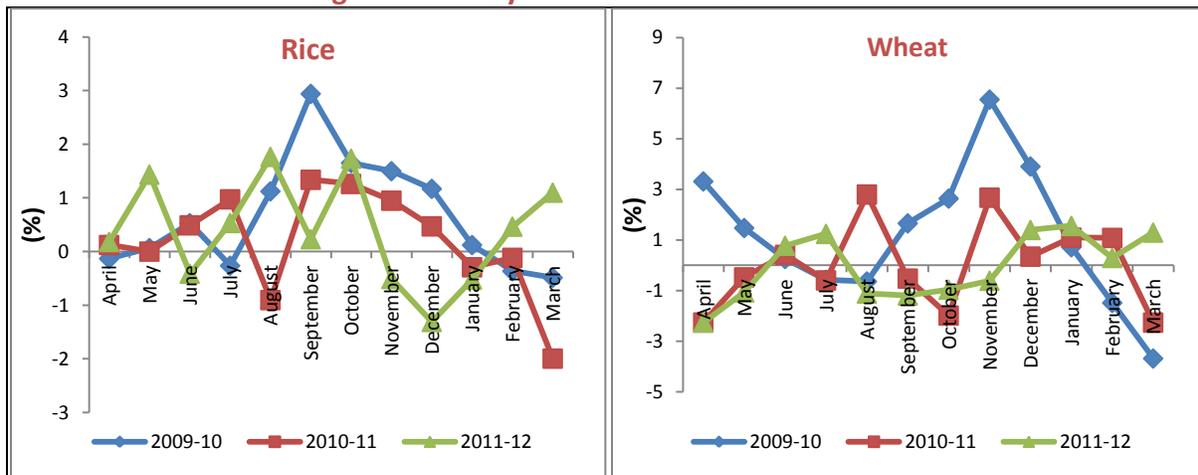
Paddy			Wheat		
Country	Share in Production (%)	Yield (kg/ha)	Country	Share in Production (%)	Yield (kg/ha)
China	28.3	6548	China	17.6	4749
India	20.7	3383	India	12.4	2839
Indonesia	9.6	5015	Russia	6.4	1918
Bangladesh	7.2	4279	U.S.A.	9.2	3117
Vietnam	5.7	5322	France	6.2	6877

Source: FAOSTAT

Volatility in prices

34. Because of the low price elasticity of demand for food staples and the thinness of markets, problems in food availability translate into large spikes in domestic prices and reductions in real incomes of poor consumers. Rice and wheat experience wide fluctuations in wholesale prices during a year which can be seen in Figure 4. As 2009-10 was a drought year, the figure clearly shows the wide fluctuations in monthly prices of wheat & rice. This volatility in prices creates uncertainty in the ‘economic access’ pillar of food security.

Figure 4: Intra-year Inflation in Rice & Wheat



Source: eaindustry.nic.in

Note: 2009-10 was a drought year

b. Procurement

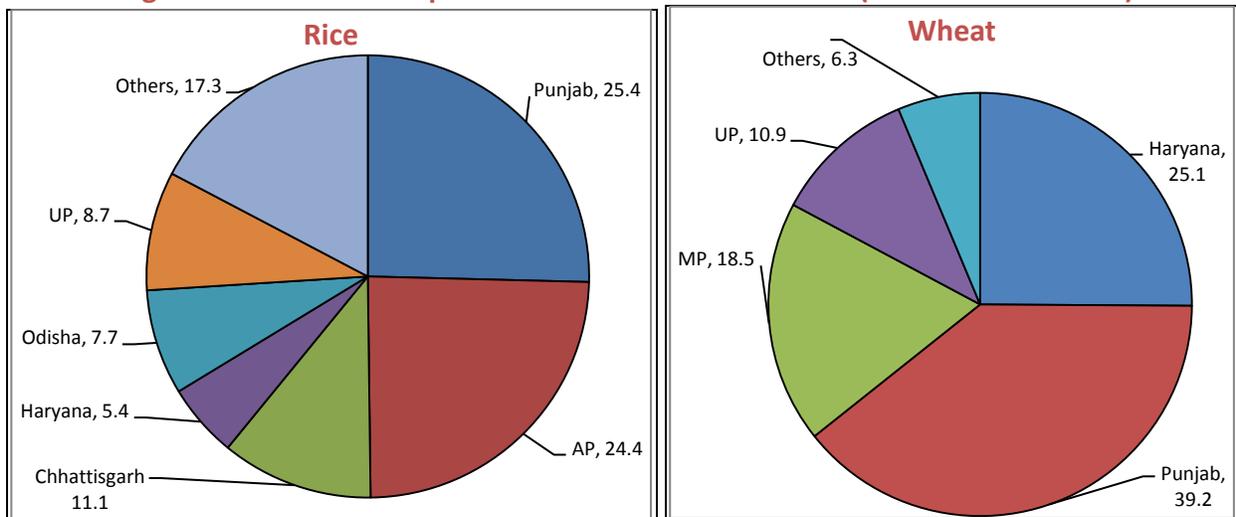
35. NFSB would require procurement for Central Pool and would depend upon the existing system particularly FCI. Currently, FCI procures mainly paddy and wheat (primarily through state agencies) from farmers (at MSP) and in the form of rice from rice millers (at levy price). It is essentially a system of open-ended procurement under which FCI is obligated to buy all the grains that farmers offer to sell at the prescribed procurement price (MSP plus Bonus) as long as the grains meet a certain quality standard. The high cost of operations has been evident and well documented.

Concentrated Procurement

36. Although, in principle the system is applicable to the country as a whole, effectively the system operates primarily in a few surplus states such as Punjab, Haryana, Western UP and Andhra Pradesh. Figure 5 shows that 70% of rice procurement is done from Punjab, AP, Chhattisgarh and UP while 80% of wheat procurement is done from Punjab, Haryana and MP alone. It is a known fact that the states of Punjab and Haryana have a very high incidence of taxes and such large scale procurement from these two states increases the procurement costs. Around Rs 7000 crore (10 percent of the food subsidy in 2011-12) have been collected in 2011-12 from FCI through levies in states like Punjab, Haryana, AP & MP²⁴.

37. Further, from a logistics point of view it could be cheaper to procure foodgrains from states like MP, Bihar, Gujarat etc and deliver the foodgrains to neighboring deficit states in central, eastern and western India rather than procure from a handful of surplus states in North and South and distribute foodgrains across the deficit states in India. But such a system would need ramping up of procurement efforts in emerging surplus or self-sufficient states in cereals, such as Uttar Pradesh, Bihar, West Bengal, Assam, and Orissa. It is often lack of effective price support operations, especially when cereal markets are controlled by restricting exports, or imposing restrictions on their free movement across the country or putting stocking limits on private trade, etc., that open market prices go below MSP.²⁵ This inability of farmers to get even MSP in these states does not allow farmers to augment their incomes by increasing production of rice and wheat.

Figure 5: Concentrated procurement of Rice and Wheat (2009-10 to 2011-12)



Source: DES

38. Agricultural marketing infrastructure is inadequate across states in India barring a few. Unlike in Punjab and Haryana, which have a well-laid out network of *mandis* and procurement centers, other major producing states of UP, Bihar, West Bengal, Assam and Orissa present a

²⁴ Price Policy Report for Rabi crops for 2013-14 marketing season, CACP

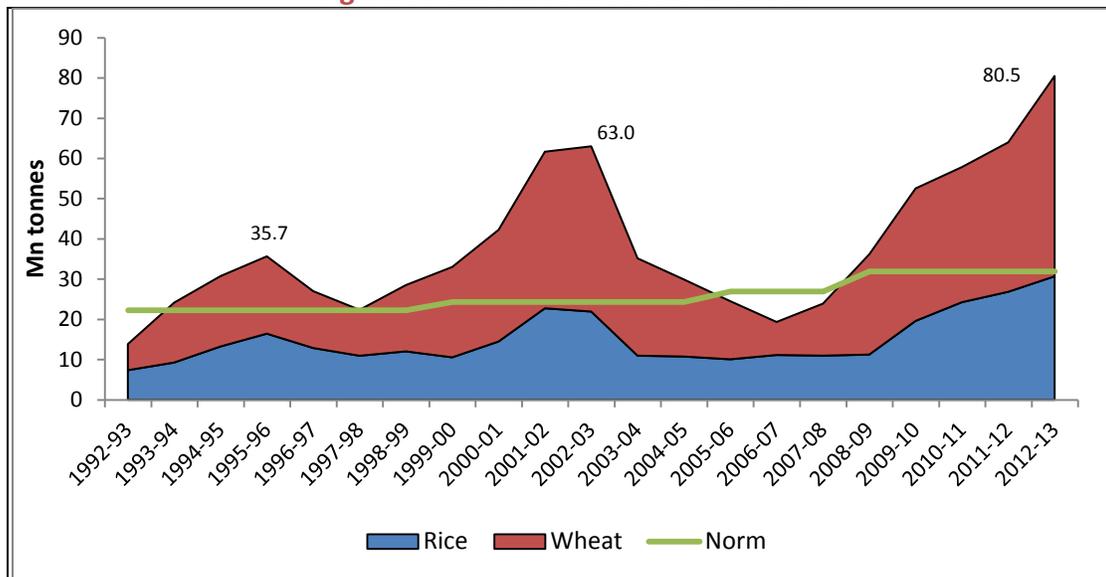
²⁵ Price Policy Report for Rabi crops for 2012-13 marketing season, CACP

somewhat dismal picture. Lack of adequately equipped mandis/procurement centres and storage poses a major challenge for procurement from other states. Even in states like Chhattisgarh and Madhya Pradesh, which have recently ramped up procurement of paddy and wheat, respectively, infrastructure for proper procurement and storage is woefully inadequate. This leads to large wastages of grain.

c. Stocks

39. As against the buffer stock norm of 31.9 million tonnes of Rice & wheat (as on 1st July of each year), total Central Pool stocks were more than double at 80.5 million tonnes on 1st July, 2012 (Fig 6). Periodic overstocking by the public sector has huge implications on the fiscal side, apart from distorting the free functioning of food grain market. Higher level of buffer stock carry the risk of higher wastage of food grains along with higher cost of maintaining the buffer. Currently, FCI is facing an acute storage crisis with covered capacity estimated at around 45.0 million tons and Covered & Plinth (CAP) storage of 17.2 million tonnes against the stocks crossing 80 million tonnes. Periodic overstocking by the public sector has huge implications on costs, apart from distorting the food grain market. The additional procurement as a result of the proposed NFSB will put enormous pressure on the existing infrastructure which is inadequate to handle the current procurement norms. Even though modern silo storage and bulk handling is required for preservation of quality and efficiencies there are several impediments to the same such as non-availability of rail heads at all FCI storages, limited locations with FCI for the same, non-availability of bulk wagons with Indian railways.

Figure 6: Central Pool Stocks with FCI



Source: FCI

Note: Stocks are shown as on 1st July of each year.

Economic Cost of FCI

40. The economic cost of procurement to Food Corporation of India (FCI) has been increasing over time with rising procurement levels - demonstrating that it suffers from

diseconomies of scale with increasing levels of procurement²⁶. Currently, the economic cost of FCI for acquiring, storing and distributing foodgrains is about 40 percent more than the procurement price. To illustrate the costs involved, in terms of storage and interest cost alone, the cost of carrying wheat for a year with government agencies is about Rs 2400/tonne –as on 1st November, 2012, the wheat stocks in the central pool are 40.5 million tonnes-almost three times the buffer norm (for 1st October).

41. For the quarter ending March, 2012, FCI employed 1.55 lakh workers out of which 1 lakh are contract workers, 19441 are departmental labour, 30112 are Direct Payment system (DPS) workers and rest were under the 'no work no pay' system. The average handling cost per metric tonne for FCI for 2010-11 for contract labour was Rs 41.4 while for departmental labour, it was Rs 311.1 (7.5 times the cost of contract labour) and for workers under the DPS it was Rs 136.9 (3.3 times the contract labour). This indicates contractual labour of FCI were the least expensive. However, the Ministry of Labour and Employment, has prohibited employment of contract labour in the depots of FCI. In years to come, it is quite possible that DPS and contract workers would become part of departmental labour which would raise the costs of labour by 3-7 times.

d. Imports

42. In case of deficit production, countries tend to resort to imports from global markets. While this is a feasible policy option, especially in emergency situations, price volatility and availability of preferred quality in global markets becomes relevant especially with the experiences of 2007-2008 global food and fuel crisis. Rice is a very thinly traded commodity, with only about 7 per cent of world production being traded and five countries cornering three-fourths of the rice exports. The thinness and concentration of world rice markets imply that changes in production or consumption in major rice-trading countries have an amplified effect on world prices. While India figures in the top ten wheat producing countries/regions in the world along with five countries of the European Union, China, USA and Russia, it does not have a prominent presence in the international trade in wheat.

43. While smaller imports can meet small deficits in domestic production to bridge the supply gap, if quantities demanded are too large, they can send the global markets into a tizzy. Sometimes, an impending food price rise (as happened in 2007-08) can invoke knee jerk policy decisions that restrict flow of food to net importing countries. This is especially true in the case of rice, as global markets are much smaller. India's entry into the international market as a large buyer could exert significant upward pressure on prices. Given that NFSB commits for legal entitlements of food (especially rice and wheat), India will have to carry a much larger stock of these to avoid any eventuality of large scale imports of rice and wheat in the event of domestic shortfall (as happened in 2002-03 when grain production fell by 38 million tonnes). If this is not done, India will risk high cost of cereal imports in times of need, especially drought years.

²⁶ Price Policy Report for Kharif crops for 2012-13 marketing season, CACP

Although foreign exchange reserves do provide the cushion to India to enter the global food markets for its needs, yet the large country impact on global prices (especially for rice) cannot be ruled out.

e. Distribution: TPDS

44. PDS with a network of 4.78 Lakh FPS is perhaps the largest retail system of its type in the world. However, the PDS has virtually collapsed in several states in India due to weak governance and lack of accountability. There are, however, exceptions like Kerala and Tamil Nadu. Table 5 shows the performance of this scheme in 2004-05 and 2009-10, the two years for which NSS data on consumption from PDS are available. In 2004-05, compared to an offtake of 29.4 million tonnes of rice & wheat by States, only 13.2 tonnes were actually lifted by households for consumption – suggesting a leakage of 54.1 percent. In 2009-10, 25.3 million tonnes was received by the people under PDS while the offtake by states was 42.4 million tonnes- indicating a leakage of 40.4 percent.

Table 5: Estimates of Leakage from TPDS

	Unit	2004-05	2009-10
Offtake under TPDS (Rice + Wheat)	Mn Tonnes	29.4	42.4
PDS Food consumed by the population, NSSO	Mn Tonnes	13.2	25.3
% Leakage of Food		54.1%	40.4%

Source: NSSO Survey (66th Round), Department of Food & Public Distribution
Detailed calculations may be seen at Annexure II

Reforms in TPDS

45. The problem of fake ration cards has been addressed by a number of states by computerization of databases and using hologram-enabled technologies to eliminate the duplicate cards. A key reform being proposed involves using Aadhaar number based application for improving delivery of food grains through PDS. The task force report²⁷ recommends setting up of Public Distribution System Network (PDSN) with the aim of providing support in the areas of development, operations and maintenance of technology, supply chain management, transparency and electronic payments. The solution aims to tackle the primary issue of identifying eligible beneficiaries, removal of bogus ration cards and provide choice of FPS to the beneficiary to procure food grains. With respect to private sector participation in PDS reforms, Madhya Pradesh has taken a significant step and used private sector to put in place a system to computerize the PDS and register beneficiaries with their Aadhaar number and provide the food coupons to the beneficiaries.

²⁷ Report of the Task Force on an IT Strategy for PDS and an implementable solution for the direct transfer of subsidy for Food and Kerosene, October 2011

IV. Financial Challenges

46. The large-scale subsidized grain distribution to almost two-thirds of the country's population of 1.2 billion implies massive procurement of food grains and a very large distribution network entailing a huge financial burden on the already burdened fiscal system. The stated expenditure of Rs 1,20,000 crore annually in NFSB is merely the tip of the iceberg. To support the system and the welfare schemes, additional expenditure is needed for the envisaged administrative set up, scaling up of operations, enhancement of production, investments for storage, movement, processing and market infrastructure etc. The existing Food Security Complex of Procurement, Stocking and Distribution- which NFSB perpetuates- would increase the operational expenditure of the Scheme given its creaking infrastructure, leakages & inefficient governance.

47. Over and above that, the yearly food subsidy bill itself is likely to gallop. The estimate of food subsidy would depend upon economic cost, central issue price of food grains, number of beneficiaries covered and quantities of food grains allocated and lifted. The food subsidy in the coming years will balloon due to the lower central issue price of grain, a significant rise in the number of entitled beneficiaries and the need to keep raising the MSP to cover the rising costs of production and to incentivize farmers to increase production. These issues raise doubts on the sustainability of the financial obligations entailed in NFSB.

IV.1 Financial Obligations under NFSB²⁸

48. Table 6 provides the breakup of financial obligations under NFSB and clearly shows that enormous additional expenditure would be required. The reason for the same is that to support NFSB, the government would need to enhance production, storage and marketing infrastructure, its own procurement and distribution set up, the entire envisaged paraphernalia of National and State Commissions. There will be a requirement of providing additional manpower at various levels for effective implementation of the Act, social audits and evaluation studies, training and capacity building etc. It also has to beef up operations in relation to the multitude of welfare schemes that have been envisaged particularly for midday meals, feeding the poor etc.

²⁸ Annexure IV gives the detailed Financial obligations of the Centre and States as per the Bill

Table 6: Financial obligations for Centre and State as per NFSB

Particulars	Centre	State	Cost in Rs crores
Buffer Carrying Cost for 5 million tonnes	✓		2,061 <i>(not considered for Year 1)</i>
Food subsidy under TDPS	✓		79,800
ICDS	✓	✓	
Mid day Meal	✓	✓	
Scheme for pregnant woman and lactating mother	✓	✓	13,500
Scheme for destitute and homeless person, emergency and disaster affected persons and person living in starvation	✓	✓	
Food security allowance		✓	
Cost of survey of households	✓	✓	
Cost for list of households placed in public domain and displayed prominently		✓	
Reforms to TPDS	✓	✓	
Internal grievance redressal system		✓	
State food commission		✓	
National food commission	✓		
Creation and maintenance of modern and scientific storage facilities	✓	✓	
Funds in case of short supply of foodgrains	✓		
Cost of storage, transport and handling of foodgrains and delivery to household after taking delivery from designated Central government depots		✓	
Expenditure on strengthening local authorities		✓	
Expenditure on social audits	✓		
Expenditure on Vigilance committees		✓	
New food schemes	✓	✓	
Schemes for vulnerable groups	✓	✓	
Implementation of proposed legislation	✓		

Source: Based on Draft NFSB

Note: Expenditures to be incurred, unless specified, would be recurring and would depend upon number of factors and therefore have not been quantified in the Draft Bill

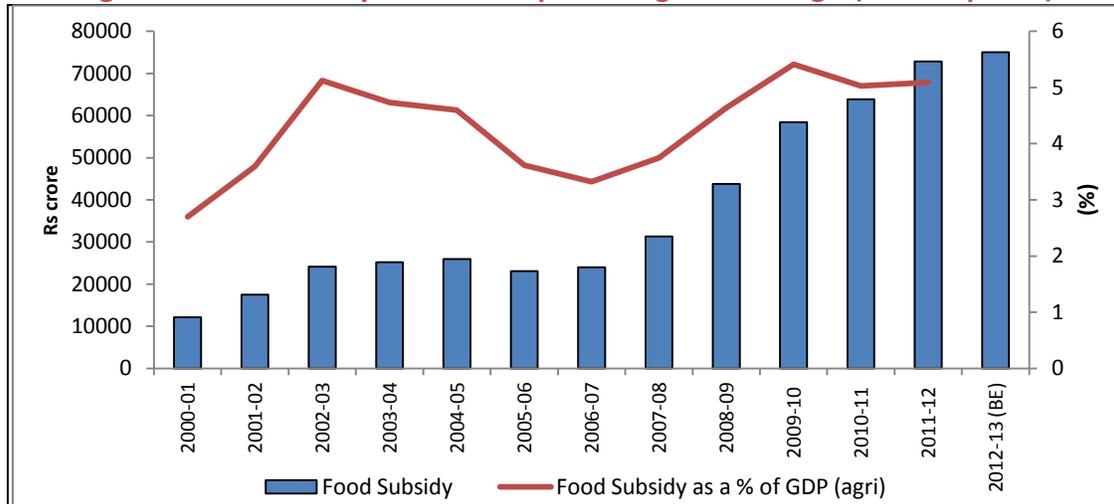
Additional Expenditure Required

a) Food Subsidy

47. Food subsidy bill represents the basic direct cost incurred by the central government on procurement, stocking and supplying to various food based safety nets such as PDS. During the last ten years, food subsidy has more than quadrupled from Rs 17,494 crore in 2001-02 to Rs 72,823 crore in 2011-12(RE) at current prices. As a ratio of GDP-Agri, it has increased from 3.6 percent to 5.1 percent in the same period (Fig 7). Increasing economic costs of handling foodgrains, record procurements in recent years and widening difference between the

economic cost of foodgrains and the central issue price have been the major factors leading to the ballooning food subsidy.

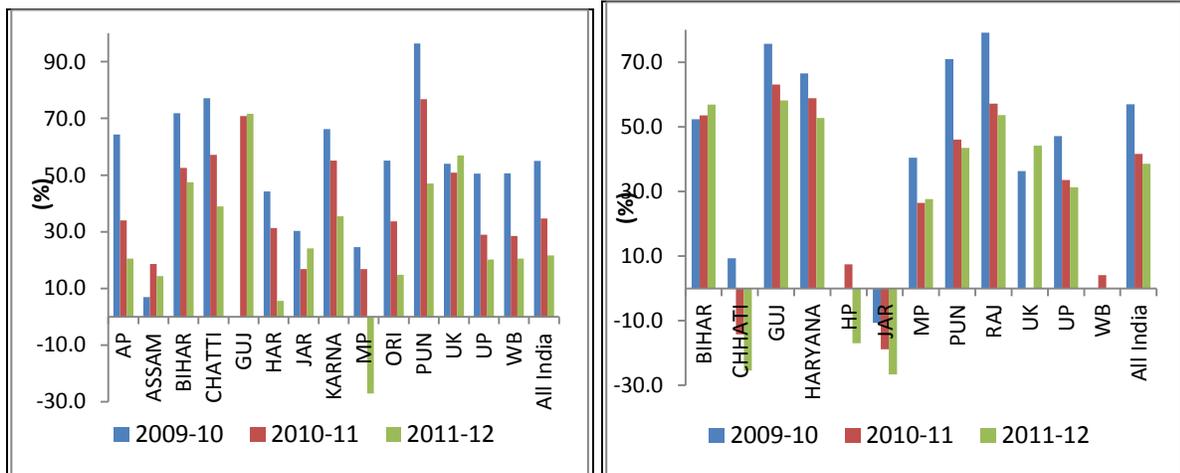
Figure 7: Food Subsidy - Total & as percentage of GDP-agri (current prices)



Source: Expenditure Budget, Various years & CSO

50. Pooled cost of grain (MSP and bonus) accounts for two-thirds of economic cost of wheat and rice. MSP for paddy & wheat have increased at a compound annual growth rate of 10.9 percent & 8.6 percent over the last five years (2007-08 to 2012-13 marketing seasons). The cost of production of rice and wheat has gone up by more than 45% during last three years (2010-11 to 2012-13 marketing seasons), i.e., on an average, by about 15% per year (according to cost projections made by CACP based on Comprehensive survey done by DES). This is primarily due to sharply rising labour and energy costs, including fertilizers. There is an acute shortage of labour in agriculture that has suddenly cropped up in these three years. In some states, labour costs have gone up by more than 100% over the same period. Due to these rising costs, the margins of production for farmers have been declining both for paddy and wheat (Fig 8). Therefore, the government may have to raise procurement prices for rice and wheat to encourage farmers to increase production of these staples. As the cost of production of crops is rising, MSP can't be kept frozen. The increase in the food subsidy bill will primarily depend on the rate at which the MSP for wheat and rice increases and the economic cost of handling grains (their procurement, stocking and distribution to the targeted households).

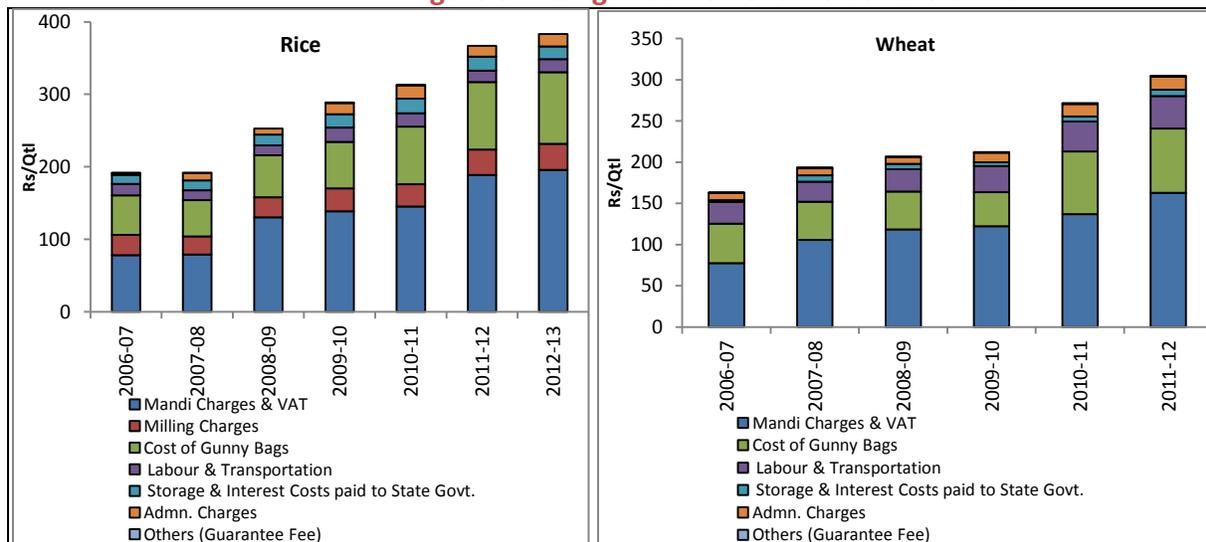
Figure 8: State –wise Margins in Paddy and Wheat cultivation as a % of C2 costs



Source: Computed from CACP cost projections

51. The procurement incidentals (which include market fees, development cess, arhatia commission, cost of gunny bags, charges to State governments for storage & interest etc.) contribute to around one-sixth of the economic cost for both rice and wheat. A major contribution to the increasing procurement incidentals is from the high rates of statutory levies imposed on the market by states like Haryana (11.5 per cent) and Punjab (14.5 per cent) (Fig 9). These add to the costs of procurement for FCI which ultimately add to the food subsidy bill. The concentration of procurement by FCI in a few states leads to increased distribution costs for the PDS where the grains are sent to states like UP, MP and Rajasthan.

Figure 9: Rising Procurement Incidentals of FCI

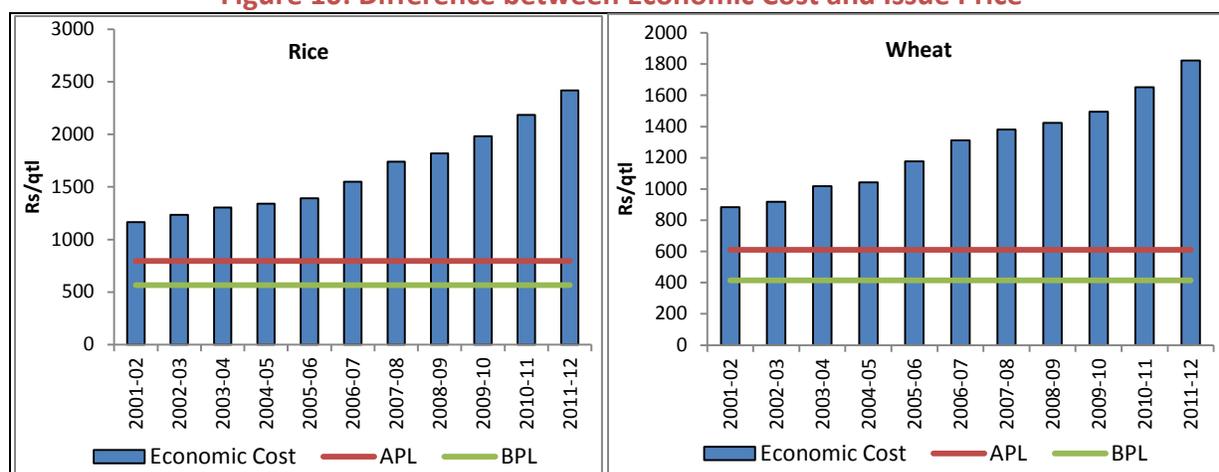


Source: FCI

Note: Figures for 2012-13 are Budget Estimates

52. The difference between the economic cost and issue price is the consumer subsidy, which is reimbursed by the Central Government to FCI. This segment has been increasing during the last ten years as despite increasing economic cost, the issue prices have remained unchanged since July 2000 for BPL families, December 2000 for AAY households and July 2002 for APL families (Fig 10). In real terms, the current issue prices are around 55 per cent of the original CIPs implying that rice and wheat are available at almost half the price through the PDS.

Figure 10: Difference between Economic Cost and Issue Price



Source: FCI, Ministry of Consumer Affairs, Food & Public Distribution

b) Investments required for enhancement of agriculture productivity

53. One of the objectives in Schedule III relates to the revitalization of agriculture. Based on the requirements under NFSB, Table 7 shows that production of wheat & rice need to be enhanced by 25 million tonnes. India has reaped a bumper harvest in 2011-12 and has procured a record 34.9 million tonnes of rice in KMS 2011-12 and 38.1 million tonnes of wheat in RMS 2012-13. But to sustain these levels of procurement, additional agricultural investment to increase production would be required.

Table 7: Wheat & Rice requirement under NFSB for 2012-13 (Million Tonnes)

Total production as per 1 st Advance Estimates by DAC	190
Procurement @ 35% of production	67
Requirement (as per estimates by DFPD)	75
Shortage	12
Production enhancements assuming 30% procurement levels	25

c) Increased requirement of marketing and processing infrastructure

54. Almost 100% market arrivals of wheat and common paddy are already procured by government in Punjab and Haryana. So growth will have to happen in newer territories especially from Eastern states. Many of these states have a very scanty level of market infrastructure with lower market surpluses and handling per market. The states would then have to heavily invest in the market infrastructure to facilitate procurement. Presuming that

the market and processing infrastructure will be required for an additional handling of 18 million tonnes, the additional investments in mandis will be to the tune of Rs 5000 crore for 3 years and in the processing infrastructure to the tune of Rs. 5000 crore for 3 years.

d) Increased requirement of storage/warehouse capacity

55. The increased level of procurement and distribution of the food grains as result of the Bill will require higher storage and warehousing capacities. The implementation of the Bill will require storage capacity addition between 22- 32 million tonnes (current covered storage capacity is 45 million tonnes). Some rough estimates show that the additional cost of storage infrastructure would be Rs. 2,500 to 8,500 crore depending upon whether the government invests in silos or traditional storage. Indian Railways too would have to invest in procurement of rolling stock.

IV.2 Total Expenditure over next three years

56. As per the calculations made within the Government set up, the food subsidy alone will cost the Exchequer about Rs 95,000 crores to start with. If one counts the other parts of the Bill, and associated set up etc. to get this moving through the existing channel of Public Distribution System, the Bill may touch an expenditure of anywhere between Rs 125,000 to 150,000 crores. And if one adds to it the money needed to produce extra foodgrains on sustainable basis—(The Ministry of Agriculture (DAC) indicated in its submission that an expenditure of Rs 1,10,600 crores would be needed over a five year period, if one is to ensure ample grain supplies on sustainable basis under the NFSB. For the success of the Bill in its current form, this expenditure will have to be front loaded in the first three years, lest a severe drought upsets the entire calculations about legal commitments.

57. As explained earlier, the increase in the food subsidy bill, say over the next three years, will primarily depend upon at what rate MSP for wheat and rice increases, and what is the economic costs of handling grains (their procurement, stocking and distribution to the targeted households). There is an acute shortage of labor in agriculture that has suddenly cropped up in the last three years. In some states, labor costs have gone up by more than 100 percent over the same period. Even if the Government raises MSP of rice and wheat by say 25 percent over 3 years, the food subsidy bill will go up straight away as the costs of handling grains are also increasing at about 6 to 7 percent a year.

58. Today, the largest contributor of foodgrains to the Central Pool is Punjab. But Punjab imposes 14.5 percent statutory levies (taxes, commissions, cess, etc.) on top of the MSP for any procurement of grain being done from the state. Suppose, Punjab decides to raise these statutory levies to 20 percent, and other states that contribute to the Central Pool also follow suit raising their taxes and cess etc from say 5 percent to 20 percent. With a procurement target of 60 to 70 million tonnes and procurement prices having been raised by say 25 percent in the next three years, taxation burden too will increase over a three year period. This is presuming that labor costs in FCI do not escalate much. Any increase would add further to the cost, and so would be the cost of setting up extra logistics, from railways to storage. A crude,

back of the envelop calculation is that it would add another 10,000 crore per year. **So the total financial expenditure entailed will be around Rs 682,163 crore over a three year period** (Table 8). These estimates are based on certain assumptions which have been outlined in the notes to the table. 33

Table 8: Calculation of cost to exchequer

All figures in Rs crores		Year 1	Year 2	Year 3	Total
	Economic Cost (EC)				
	Rice	98658	108524	119376	
	Wheat	56154	61769	67946	
A	Total EC – Grain	154812	170293	187323	512428
	<u>Sale of grain</u>				
	Rice - Priority @ Rs 3 per kg	7127	7127	7127	
	Rice - General @ 50% of MSP	6408	6311	6942	
	Wheat – Priority @ Rs 2 per kg	3441	3441	3441	
	Wheat – General @ 50% of MSP	3138	3592	3951	
B	Total Sale of Grain	20114	20470	21460	
C	Subsidy (A-B-C)	134698	149823	165862	450383
	<u>Other Expenditure</u>				
	Agriculture Production Enhancement Costs	66000	33000	11000	
	Infrastructure and logistics cost	10000	10000	10000	
	National & State Food Commission per annum	146	155	164	
	District Grievance Redressal per annum	320	339	360	
	New Scheme for special groups	8920	8920	8920	
	Maternity Benefit per annum-cash scheme	14512	14512	14512	
	Misc Costs (PDS reforms, Addl. Staff & office etc)	6667	6667	6667	
E	Total Other Expenditure	106565	73593	51622	231780
F	Total outflow from Govt (D+E)	241263	223416	217485	682163

Note: 1. Assumption of annual requirement of foodgrains under NFSB is approximately 70 million tonnes. Quantity required for issue under PDS is calculated as 40.96 million tonnes for priority category and 11.63 million tonnes for general category as per provisions of NFSB. Around 20 million tonnes would be required for buffer stocks and other welfare schemes.

2. The composition of stocks is assumed as 42% wheat and 58% rice –which is the ratio of the two in total offtake during 2009-10 to 2011-12

3. Economic Cost for Year 1 is calculated for 2012-13 at current levels viz Rs 19100 per tonne for wheat & Rs 24300 per tonne for rice. For year 2 & year 3, economic cost is assumed to increase by 10% per annum.

4. MSP for year 2 and year 3 is assumed to be 70% of the estimated Economic Cost. For year 1, the current levels of MSP are taken.

5. The estimates on other expenditure are as per internal calculations by various Departments/Ministries.

6. Administrative costs on Food Commissions and Grievance Redressal are assumed to increase by 6% per annum in Year 2 & 3.

V. Macroeconomic Impacts of NFSB Provisions

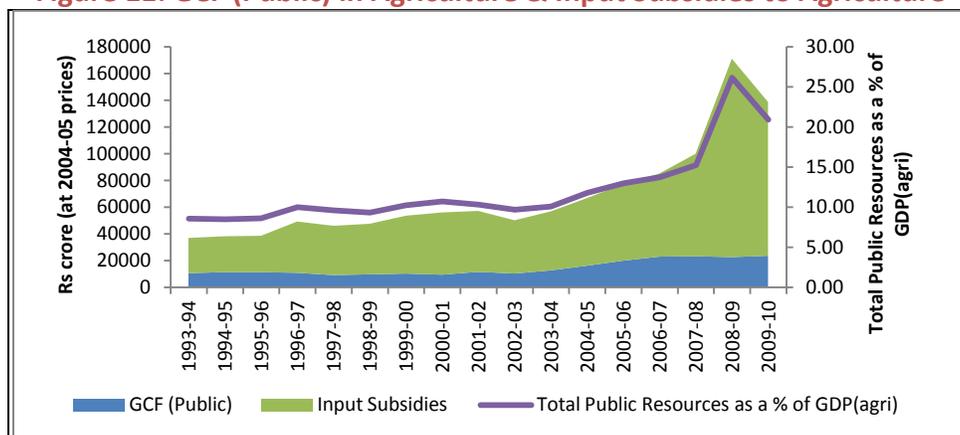
Though the objective of NFSB is well appreciated, the impact of its underpinning strategy on the economy may be adverse.

V.1 Increase in Subsidies - Subsidies vs Investments

59. As already delineated in the paper in earlier section, NFSB would require huge funds and thereby huge subsidies by the Central Government. The source for these subsidies could be increasing fiscal deficit (fuelling inflation), additional revenue generation or shift of funds from investment to subsidies. Green Revolution was not an outcome of subsidies but rather of enhanced investments in Technology, Institutions (R&D), communication and physical infrastructure. Public investment in agriculture as a percentage of agri-GDP has increased from 1.8 percent in 2000-01 to 3.4 percent in 2010-11. But input subsidies, as a percentage of agri-GDP, have increased at a faster pace than public investment, from 8.9 percent in 2000-01 to 17.2 percent in 2009-10. Together, only food and fertilizer subsidies, as a ratio of GDP (agri), accounted for 12.4 percent in 2010-11- up from 6.0 percent in 2000-01. In comparison, public investment in agriculture is only around one-fourth of this which is reflective of the imbalance between use of subsidies & investments as policy instruments for agricultural growth (Fig 11). It may be worth noting here that during the last three Five Year Plans, agricultural sector has failed to achieve the modest targeted growth of 4 percent.

60. Given fiscal constraints, there is always a trade-off between allocating money through subsidies and increasing investments. Ample research shows that investment option is always preferable to subsidies to sustain long-term growth in agricultural production and also to reduce poverty faster. So the focus of public expenditure for agriculture needs to shift towards investments to boost productivity rather than subsidies. *In contrast, NFSB is likely to shift the nature of resource allocation more towards subsidies rather than investments. This will be retrogressive from long term agri-growth and sustainable food security point of view.*

Figure 11: GCF (Public) in Agriculture & Input Subsidies to Agriculture



Source: DES & CSO

V.2 Forcible low-level equilibrium trap for Indian agriculture

61. The structural composition of agriculture has been evolving over the years. Within the value of total output of agriculture & allied sector, the share of cereals has declined from 27.3% in TE 1990-91 to 21.0% in TE 2010-11 while the share of livestock has increased from 23.7% to 29% in the same period. Currently, cereals constitute only about one fifth of the total value of output from agriculture and allied sector which is less than the contribution from the livestock sector and almost equal to the fruits & vegetables. The share of fruits & vegetables and livestock have shown an increasing trend in recent years implying that they have been growing at a much faster rate than the traditional crops sector. Given the rising share of high value commodities in the total value of agricultural output and their growth potential, this segment is likely to drive agricultural growth in the years to come. Being highly perishable in nature, this segment requires faster and better linkages between farms and firms in the logistics, processing and organized retailing.

62. Faster growth in per capita incomes and urbanization are triggering shift towards high value commodities like fruits, vegetables, fats and oils, and animal products such as dairy, poultry and eggs. Share of expenditure on cereals in total food expenditure has declined from 41% in 1987-88 to 29.1% in 2009-10 in rural areas and from 26.5% in 1987-88 to 22.4% in 2009-10 in urban areas. The Bill's focus on rice and wheat goes against the trend for many Indians who are gradually diversifying their diet to protein-rich foods such as dairy, eggs and poultry, as well as fruit and vegetables. There is a need for a more nuanced food security strategy which is not obsessed with macro-level foodgrain availability. *But at the policy level, the Government is still focused on foodgrains and with NFSB is clearly reversing the movement of Indian agriculture from high value items to foodgrains.* This will trap the Indian agricultural sector in a low level equilibrium trap as returns are generally higher in high value agriculture. But a faster movement towards high value agriculture needs large investments in infrastructure and risk mitigating strategies. The NFSB is likely to slow down this natural process, and at places even reverse this trend.

V.3 Restricted Private initiative in Agriculture

63. In pursuit of the food sufficiency regime a regulatory framework has been created with massive government intervention in terms of policing powers under the APMC Act and Essential Commodities Act, interstate movement restrictions, regular but unpredictable export bans on foodgrains, banning of forwards trading on commodity exchanges etc. This will be even further tightened to enable government to carry out its procurement functions now. A combination of the quantum of public procurement and a stringent regulatory framework would drive the private sector out of the food grains sector.

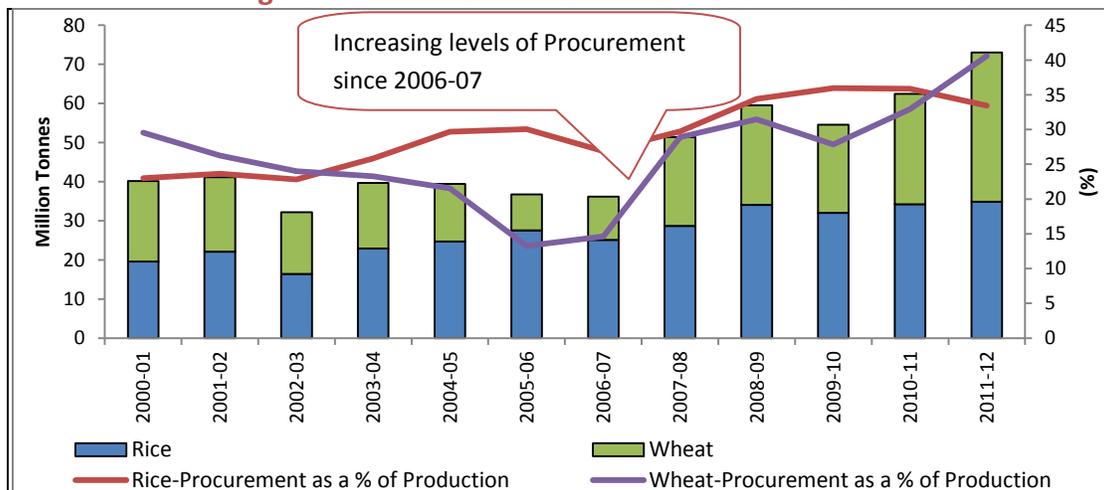
64. Let us illustrate this with an example of Punjab. Punjab experienced an increasing rate of growth for about 25 years, but from 1997-98, Punjab has experienced a deceleration in its rate of growth. Cultivation of high-yielding varieties of paddy, particularly under assured tube well irrigation has resulted in an alarming depletion of the underground water table, decline in soil fertility, an increased incidence of insect pests, weeds, and increased resistance towards

use of chemical inputs, and decelerating rates of growth in yields. Further, almost complete takeover by state of the foodgrain markets caused much of the private sector to withdraw and there was not much modernization and scaling up of its agro processing (mills etc) and storage infrastructure. Punjab rice and wheat may not be even globally competitive without large subsidies through free power and water. It is surviving basically on government support and without much value addition. As a result, Punjab's agri-GDP growth during the decade of 2000 remained pitifully low at less than 2 percent. Gujarat, in contrast, has focused on commercial crops and diversified into non-farm activities like milk, along with a strong focus on investments in value adding infrastructure. This holds the key to the stupendous growth in agriculture of more than 9% per annum witnessed during the decade of 2000. Gujarat remained almost free from any large scale government intervention and regulation, and leveraged its private entrepreneurs to drive growth. Through incentives to attract private sector by providing a favorable investment climate, several non-farm income generating employment opportunities have been created in rural areas supplementing rural income.

V.4 State takeover of food grain economy would cripple competition

65. Since 2006-07, the procurement levels for rice and wheat have increased manifold with more than one-third of the total production being procured for Central Pool (Fig 12). This will be even more pronounced if procurement is taken as a share of marketed surplus -more than 40 percent for rice and more than 50 percent for wheat. Currently, piling stocks of wheat with FCI has led to an artificial shortage of wheat in the market in the face of a bumper crop. Wheat prices have gone up in domestic markets by almost 20 percent in the last three months alone, because of these huge stocks with the government that has left very little surplus in markets. Apart from imposing a huge additional cost to procure, store, transport and distribute grain, increasing public procurement strangulates the domestic grain market.

Figure 12: Procurement of Rice & Wheat for Central Pool



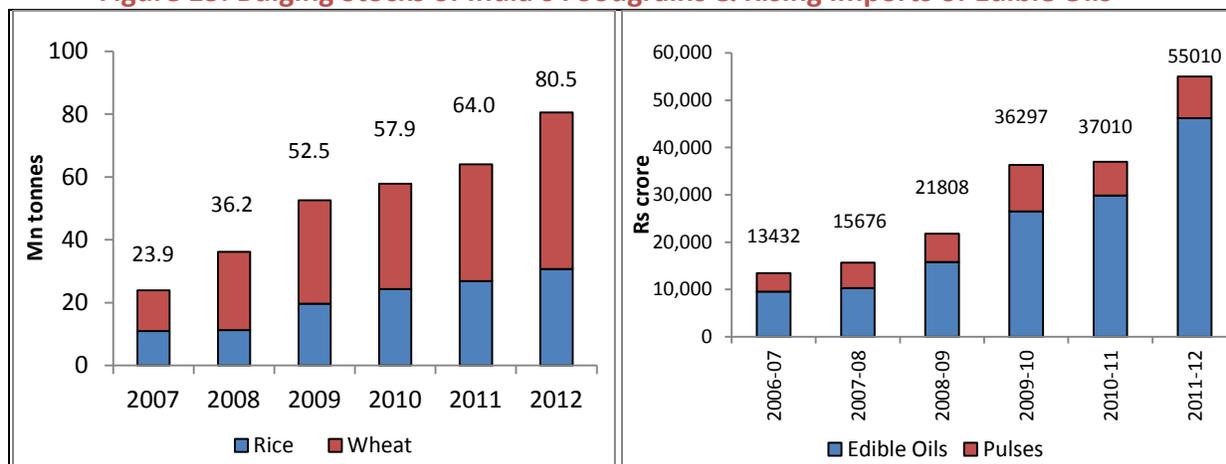
Source: DFPD

V.5 Inflationary pressures on food prices

66. India has recently been experiencing high food inflation in the face of record production of food grains, robust buffer stocks and growing resilience of agriculture to monsoon uncertainties. A distinct feature of recent food price inflation has been the sustained price pressure in protein rich items (pulses, milk, fish, meat and eggs). According to RBI, the inflationary impact of NFSB will depend on the extent to which it will raise demand for food grains relative to the normal increase in supply. This will create demand pressures, which will inevitably spillover to market prices of food grains. Furthermore, the higher food subsidy burden on the budget will raise the fiscal deficit, exacerbating macro level inflationary pressures.²⁹ Additionally, the need to procure large amounts would need a consistent rise in MSP of the foodgrains to incentivize their production further fuelling the inflationary pressures. This will create further macroeconomic imbalances.

67. NFSB focus on cereals is likely to induce severe imbalance in the production of oilseeds and pulses, resulting in substantial imports in the coming years. India imported a whopping US\$ 9.7 billion (Rs 46,242 crore) worth of edible oils in 2011-12 – a 47.5 percent jump from last year and pulses worth US\$ 1.8 billion (Rs 8767 crore) during 2011-12- an increase of 16.4 percent as compared to last year (Fig 13). Assured procurement gives an incentive for farmers to produce cereals rather than diversify the production-basket. Import intensity will intensify at higher prices creating inflationary pressures. Vegetable production too may be affected - pushing food inflation further.

Figure 13: Bulging Stocks of India's Foodgrains & Rising Imports of Edible Oils



Source: FCI, Department of Commerce

Note: Stocks with FCI are as on 1st of July of each year

V.6 Impact on 'Absorption' Pillar of food security

68. NFSB also aims at improving the nutritional status of the population especially of women and children. But studies have shown that the challenge of improving absorption lies in

²⁹ http://www.rbi.org.in/scripts/BS_SpeechesView.aspx?Id=630

linking nutrition with health, education and agriculture interventions³⁰. Access to sanitation facilities and women's literacy in particular are found to be strong factors affecting malnutrition. The Indian government has recognized malnutrition as a serious problem in every plan document. However, a pressing issue is the absence of a comprehensive and functioning National Nutrition Strategy. Direct nutrition intervention through the Special Nutrition Programme under the Integrated Child Development Scheme (ICDS; now called the Supplementary Nutrition Programme) and the MidDay Meals Scheme (MDMS) are currently in force to address the nutritional needs of children and women and would continue to be the channels through NFSB. Though no deeper analysis of these schemes has been done for the purpose of this paper, yet it needs to be recognised that malnutrition is a multi-dimensional problem and needs a multi-pronged strategy. Women's education, access to clean drinking water, availability of hygienic sanitation facilities are the prime prerequisites for improved nutrition. If we include the costs to create such rural and urban infrastructure, enormous financial expenditures and effective strategies are required.

VI. Exploring CCTs as an alternative model

69. For decades, India has largely followed a 'price policy' approach to achieve essentially what are equity ends. It has subsidized food (rice and wheat) and agricultural inputs (fertilizers, power, canal waters, etc.) so that poor consumers and small farmers can have economic access to these. But the ground evidence suggests that this may not be the best way to achieve equity objectives. It has led to major distortions in grain markets, high costs in handling grain and large scale diversions of wheat & rice to non-targeted groups. These have resulted in large 'efficiency losses' without achieving commensurate results on equity front. Literature on best practices around the world shows that 'income policy' approach rather than 'price policy' is more efficient in achieving equity ends and this has been adopted successfully by many countries across the world. Specific criticisms on untargeted subsidies arise from the fact that (i) the benefits from general subsidies are often regressive; (ii) the administrative costs of subsidy schemes can be high; (iii) subsidy schemes are particularly open to corruption and mismanagement; (iv) subsidies can distort the market through crowding out private traders and distorting the incentives for producers (v) subsidies, especially those that benefit the non-poor, can be popular and difficult to eliminate, given large constituencies opposed to change; and (vi) subsidies can pose an increasingly heavy burden on the government budget when placed on items (e.g., food or fuel) in times of increasing domestic or international prices³¹.

70. Arguments in favor of CCTs stress that they contribute to economic growth and make it more inclusive in two ways. First, CCTs motivate and enable parents to invest in their children's education and health, thus, improving the potential for children to "break out" of the cycle of poverty. Second, to the extent that there are positive externalities from household-level investments in human capital, these positive externalities will accrue to society as a whole.

³⁰ <http://cacp.dacnet.nic.in/Agri-Nutrition-Paper.pdf>

³¹ Special Evaluation Study on ADB's Social Protection Strategy, October 2012

CCTs are arguably more efficient than general subsidies, and over time databases and mechanisms can be developed to improve targeting efficiency³². Brazil is a classic example of this - the *Bolsa Familia* programme, world's largest conditional cash transfer program, has lifted more than 20 million Brazilians out of acute poverty and also promotes education & health care. These types of social protection systems are now being adopted nearer home too as in Indonesia & Philippines with immense success. Philippines' '*Pantawid Pamilyang Pilipino Program*'-another CCT scheme- costs less than 0.5% of the country's gross domestic product, yet reaches 15 million people.

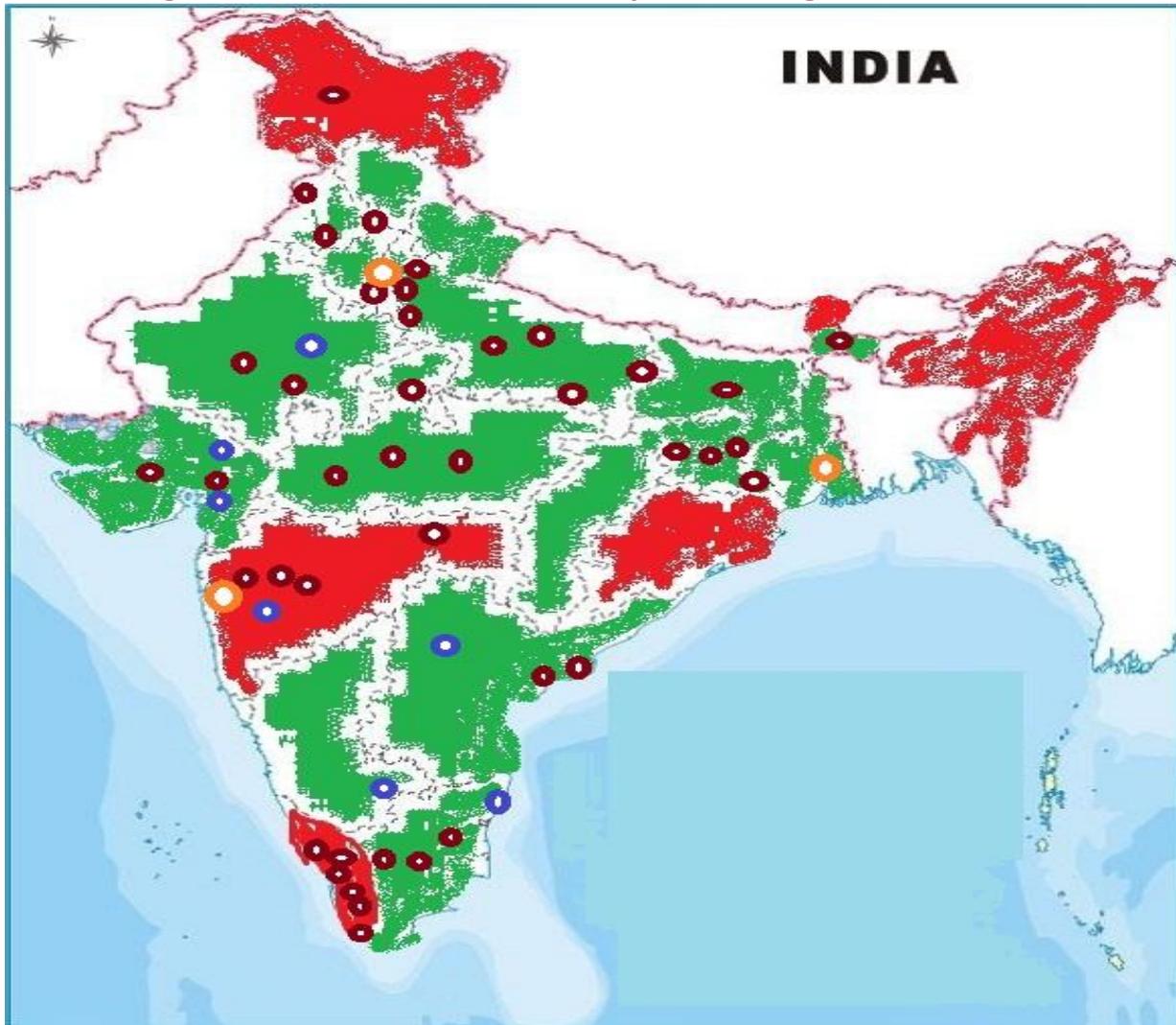
71. It is imperative that India learns from the social safety net experiences across the world and evolves an innovative strategy that is based on more effective and appropriate policy instruments to enhance social and economic welfare. It is high time to revisit the foodgrains policy with movement from physical handling and distribution of foodgrains to cash transfers/food coupons/smart cards linking it with 'Aadhaar'. This will be in line with changing consumption patterns, will avoid the need to keep 80 million tonnes of stocks, help cut down the costs of storage and taxes on procurement, avoid duplication of beneficiaries and therefore be much more efficient and quick in reaching the poor. Pilot projects in India that tested cash transfers/smarts cards systems, have shown drastic reduction in leakages as compared to the existing PDS, which, in case of cereals, go as high as 40 percent (Annexure II).

72. As India is a vast country, it may be left to individual states to devise their own systems of provision of food security. States which are surplus in terms of production of cereals could move straightaway to cash transfers. Cities with a population of 1 million or more (currently 33 as per 2011 census)³³ can also shift to cash transfers. States which are grain deficit may continue with the physical handling of foodgrains (Figure 14). Only an optimum level of buffer stock needs to be maintained by FCI for contingencies. This would go a long way in pruning the food subsidy and more importantly help in achieving the welfare objectives efficiently.

³² Special Evaluation Study on ADB's Social Protection Strategy, October 2012

³³ Srinagar (1.2 mn), Ludhiana (1.6 mn), Amritsar (1.2 mn), Chandigarh (1.0 mn), Faridabad (1.4 mn), Delhi (16.3 mn), Jaipur (3.0mn), Jodhpur (1.1 mn), Kota (1.0 mn), Kanpur (2.9 mn), Lucknow (2.9 mn), Ghaziabad (2.4 mn), Agra (1.7 mn), Varanasi (1.4 mn), Meerut (1.4 mn), Allahbad (1.2 mn), Patna (2.0 mn), Kolkatta (14.1 mn), Asansol (1.2 mn), Jamshedpur (1.4 mn), Dhanbad (1.2 mn), Ranchi (1.1 mn), Raipur (1.2 mn), Durg-Bhilai (1.1 mn), Indore (2.2 mn), Bhopal (1.9 mn), Jabalpur (1.3 mn), Gwalior (1.1 mn), Ahmadabad (6.3 mn), Surat (4.6 mn), Vadodara (1.8 mn), Rajkot (1.4 mn), Mumbai (18.4 mn), Pun (5.0 mn), Nagpur (2.5 mn), Nashik (1.6 mn), Vasai (1.2 mn), Aurangabad (1.9 mn), Hyderabad (7.8 mn), Vizag (1.7 mn), Bangalore (8.5 mn), Kochi (2.1 mn), Kozhikode (2.0 mn), Thrissur (1.9 mn), Malappuram (1.7 mn), Thiruvananthpuram (1.7 mn), Kannur (1.6 mn), Kollam (1.1 mn), Chennai (8.7 mn), Coimbatore (2.2 mn), Madurai (1.5 mn) and Tiruchirappalli (1.0 mn)..available at http://censusindia.gov.in/2011-prov-results/paper2/data_files/india2/Million Plus UAs Cities 2011.pdf

Figure 14: Gradual Movement from Physical Handling to Cash Transfers



Note: Per capita production is compared to per capita consumption of cereals to define Surplus/Deficit cereal states

States with green shading are surplus cereal states –can straightway shift to cash transfers

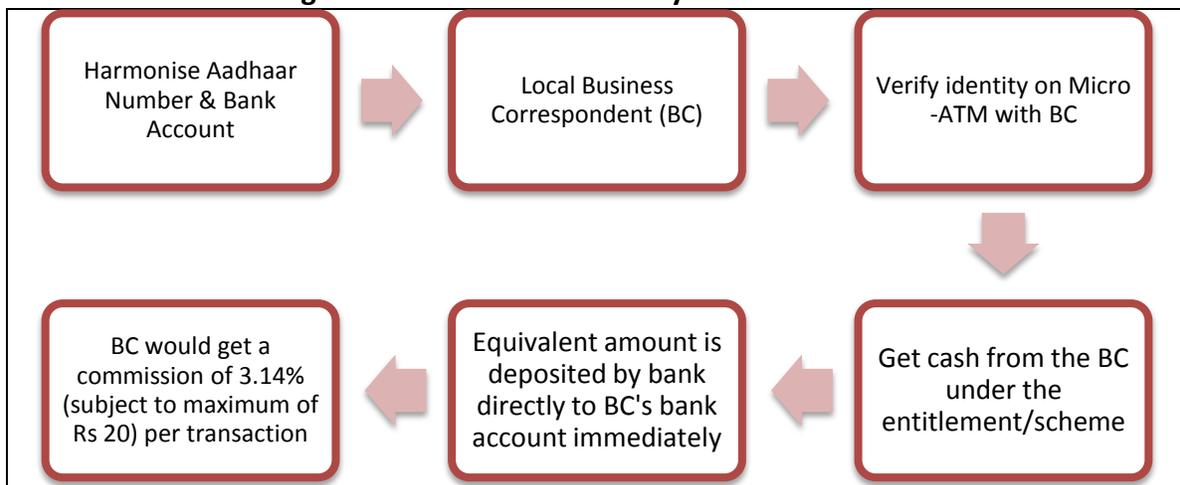
States with red shading are deficit cereal states –may continue with physical allocation

As per Census 2011, 33 cities/urban agglomerations have a population of more than 1 million. Cities shaded in orange-more than 10 million people, blue- 3million to 10 million, brown- 1million to 3 million-should shift to cash transfers

73. In this context, the recently announced policy of cash transfers for some 29 schemes – excluding food and fertilizers’ subsidy –in 51 districts in 15 states from 1st January, 2013 is a bold step in the right direction. Under the new system, a cash transfer will happen only when a person has an Aadhaar number, so the wastages from money being transferred to fraudulent or non-existent person is eliminated. The money has to be deposited directly into a beneficiary’s bank account. Given the relatively low level of penetration of bank branches, particularly in

rural areas, a business correspondent- armed with micro-ATMs linked with the banking system- would render the service (Figure 15). 'Dilli Annashree Yojanaa' recently announced by the Delhi Government is the first such initiative to provide food security through cash transfers. The scheme will facilitate the transfer of cash benefit directly to the bank accounts of the beneficiaries using an Aadhaar-enabled no-frills bank account, which can be accessed only by the senior-most woman member of the vulnerable household. These cash transfers signal a paradigm shift in the use of instruments from price policy to income policy to achieve equity goals. There would certainly be some technical or exclusion glitches in the beginning but there will be ample savings (in the form of reduced leakages) eventually to revamp the entire infrastructure. Inclusion of food subsidy too in its ambit would further be a right step.

Figure 15: How the Aadhaar System would work



Source: Adapted from 'UPA's Smart Card', India Today, December 17, 2012



VII. The way forward

74. The above analysis shows that it is imperative that we look at the entire system of food production, food procurement and the release & distribution of food for achieving food

security. Trying to correct one segment of this complicated system is likely to end up in failure or, at best, have limited success. While foodgrains are central to food security, diversifying demand patterns need to be appreciated for holistic approach to food and nutritional security. It has to be appreciated that the issue of food security is not so much about availability of food grains but more the composition of the overall food basket as observed in changing consumption patterns. In light of the issues raised above, the long-term feasibility of the envisaged strategy under NFSB needs to be carefully debated in national interest.

75. The role of FCI needs to be redefined and should be limited to managing buffer stocks & welfare programs, price stabilization and imports, exports and market intervention for price stabilization and contingencies. In order to improve efficiency and enable equitable distribution in the entire supply chain of procurement to delivery (which should also include productivity enhancement for increasing the basket size) there is a huge scope for private sector participation either by itself or in PPP mode. Increasing the coverage and scope of the PDS will result in escalating operational stocks, which would strangle foodgrain trade in the country.

76. It needs to be recognised that malnutrition is a multi-dimensional problem and needs a multi-pronged strategy. The challenge of improving absorption lies in linking nutrition with health, education and agriculture interventions. Women's education, access to clean drinking water, availability of hygienic sanitation facilities are the prime prerequisites for improved nutrition. To begin with an effective convergence of schemes like Mid-day meals, ICDS, etc can be attempted.

77. CCTs have been widely adopted across the world for social welfare needs with statistically significant improvements. India needs to adapt these schemes to its specific needs and gradually move towards CCTs if it wants to achieve food and economic security for its people. And for this to happen, the NFSB needs to be flexible, allow experimentation on those lines, starting with cities and cereal-surplus states. Only then, it is hoped, that NFSB will be able to achieve its objective more efficiently and on sustainable basis. The biggest benefit of using this CCT, or in other words, income approach in place of price approach to achieve equity ends, will be that it will not adversely affect the functioning of agri-markets and the natural process of agri-diversification. This will go a long way in propelling efficiency based and demand driven growth of agriculture. This, in turn, will mainstream many millions by raising their productivity and augmenting incomes. That will provide long term food and nutritional security.



Annexure I: What is Food and Nutrition Security?

1.1. Food Security

'Food Security' as a concept has continuously evolved over the last few decades. Originally the focus was on the *supply side* of the food equation concentrating on adequate '*availability*' of food at the national and international level. Food security as defined in the 1974 World Food Summit underlines this: "*availability at all times of adequate world food supplies of basic foodstuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices*"³⁴.

Following the success of the Green Revolution, which helped to increase food production (food availability) but did not result in substantial reductions in poverty and levels of malnutrition, it was recognized that '*availability*' does not assure '*access*'. In 1983, FAO expanded its concept of food security to include both '*physical and economic access*' to food supply: "*ensuring that all people at all times have both physical and economic access to the basic food that they need*"³⁵.

1.2. Nutrition Security

'**Nutrition Security**', in principle is more than food security and can be defined as adequate nutritional status in terms of protein, energy, vitamins, and minerals for all household members at all times (Quisumbing 1995, 12)³⁶. The necessity to include nutrition into food security evolved over time as it was realized that the ability of the human body to '*Utilize/Absorb*' food requires not only an adequate diet, but also a healthy physical environment, including safe drinking water and adequate sanitary facilities (so as to avoid disease) and an understanding of proper health care, food preparation and storage processes.

1.3. Food and Nutrition Security (FNS)

In addition to the three pillars already discussed, i.e. '*Availability*', '*Access*' and '*Utilization/Absorption*'; the FAO 2002 definition includes another element, '*Stability*' which refers to the temporal dimension of food security i.e. the time frame over which food security is being considered. FAO expanded the definition in 2002 as follows: "*Food security [is] a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life*"³⁷. The conceptual framework of FNS comprising these '*four pillars*' and their linkages is depicted in the Figure 1.1 and Box 1 below:

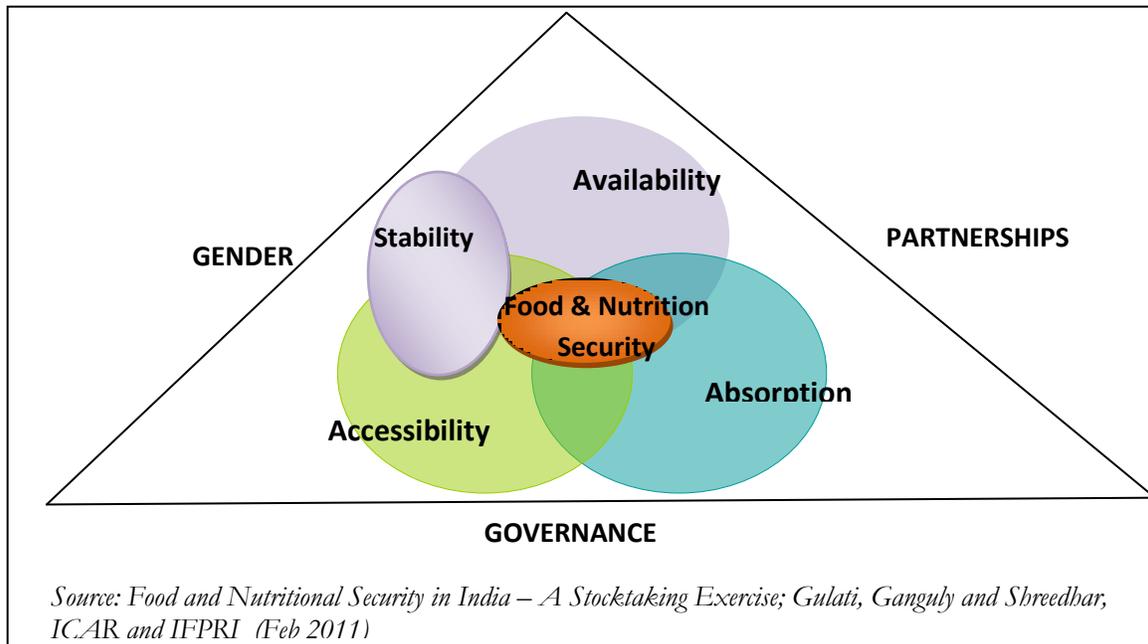
³⁴ United Nations. 1975. *Report of the World Food Conference, Rome 5-16 November 1974*. New York. as quoted in Trade Reforms and Food Security, FAO, 2003

³⁵ FAO. 1983. *World Food Security: a Reappraisal of the Concepts and Approaches*. Director General's Report. Rome as quoted in Trade Reforms and Food Security, FAO, 2003

³⁶ The Concept of Food and Nutrition Security, Lioba Weingartner, InWEnt 2005 Edition

³⁷ FAO. 2002. *The State of Food Insecurity in the World 2001*. Rome. as quoted in Trade Reforms and Food Security, FAO, 2003

Figure 1.1: Conceptual framework for food and nutrition security



Box 1: Four Pillars of FNS³⁸

Food Availability: *The availability of sufficient quantities of food of appropriate quality, supplied through domestic production or imports (including food aid).*

Food Access: *Access by individuals to adequate resources (entitlements) for acquiring appropriate foods for a nutritious diet. Entitlements are defined as the set of all commodity bundles over which a person can establish command given the legal, political, economic and social arrangements of the community in which they live (including traditional rights such as access to common resources).*

Utilization or Absorption: *Utilization of food through adequate diet, clean water, sanitation and health care to reach a state of nutritional well-being where all physiological needs are met. This brings out the importance of non-food inputs in food security.*

Stability: *To be food secure, a population, household or individual must have access to adequate food at all times. They should not risk losing access to food as a consequence of sudden shocks (e.g. an economic or climatic crisis) or cyclical events (e.g. seasonal food insecurity). The concept of stability can therefore refer to both the availability and access dimensions of food security.*

³⁸ Food and Nutritional Security In India – A Stocktaking Exercise; Gulati, Ganguly and Shreedhar, ICAR & IFPRI (Feb 2011)

Annexure II: Estimates of Leakage from PDS

Consumption of Cereals in 2004-05 and 2009-10 in All India under PDS

Cereal	Year	Consumption Per Capita in 30 days		Annual Consumption Per Capita		Population			Annual Consumption (Total)		
		Kg		Kg		Million			Million Kg		Million Tonnes
		Rural	Urban	Rural	Urban	Total	Rural (69%)	Urban(31%)	Rural	Urban	Rural + Urban
Rice	2004-05	0.84	0.53	10.22	6.45	1096	756.05	339.67	7726.81	2190.33	9.9
	2009-10	1.41	0.81	17.16	9.86	1177	811.95	364.79	13929.04	3595.01	17.5
Wheat	2004-05	0.31	0.17	3.77	2.07	1096	756.05	339.67	2851.56	702.56	3.6
	2009-10	0.62	0.37	7.54	4.50	1177	811.95	364.79	6124.82	1642.16	7.8

Source : NSSO

Offtake compared to Consumption of Rice & Wheat- All India

Cereal	Year	Offtake(TPDS)	Allocation	Consumption as per NSS	Leakage	% Leakage
		Million Tonnes				
Rice	2004-05	16.46	34.45	9.9	6.5	39.8
	2009-10	23.41	24.82	17.5	5.9	25.1
Wheat	2004-05	12.89	37.25	3.6	9.3	72.4
	2009-10	18.99	22.78	7.8	11.2	59.1
Rice + Wheat	2004-05	29.35	71.70	13.5	15.9	54.1
	2009-10	42.40	47.60	25.3	17.1	40.4

Source : NSSO, DFPD



Annexure III: Alternate models to TPDS

Direct Cash Transfer (DCT)

Under DCT, money is transferred directly to the account of the beneficiaries with freedom to spend by choice. An alternative to such scheme is Conditional Cash Transfers (CCT).

To cite from Kapur, et al, (2008, p.38) who make a case for cash transfers: *“According to the Economic Survey 2007-08, about 27.5 percent of India’s roughly 1.13 billion people are below the poverty line (BPL), i.e., about 310 million people or 70 million households. If the Rs.1,80,000 crore spent on centrally sponsored schemes and food, fertilizer and fuel subsidies were distributed equally to all these 70 million households, it would mean a monthly transfer of over Rs.2,140 per household. This is more than the poverty line income for rural households and more than 70 percent of the urban poverty line income. Indeed, if the government simply gave eligible households the amount of money it spends on the Public Distribution System, this alone would entail a monthly transfer of more than Rs.500 to each household, i.e., about 40 percent of the entire food budget for a household at the poverty line. Alternately, if the amount was to be made available to Gram Panchayats, the estimated amount available per Gram Panchayat would be about Rs.1,00,000 crore per annum.”*

One of the critical factors in developing an effective DCT scheme will be to use ICT based implementation framework. It would include collection of beneficiary data, verification and authentication of the data to create a reliable database which would include the details of beneficiaries who are eligible to receive cash, creation of institutional structure, developing an ICT based delivery mechanism and delivery cash to the beneficiaries on a period basis or as decided by the Centre. Both the National Population Registrar (NPR) and UIDAI have been tasked by the Government to collect demographic data as well as biometric data of the citizens of India who reside here. The data collected will be used to issue the Aadhaar number. As a result of this process the individual’s basic demographic information and biometric details are stored in a central database, and linked to their assigned Aadhaar number. The database can then be contacted by agencies and service providers anywhere in India to confirm the identity of the person. The database thus created can be used for implementing the DCT scheme. Smart cards if issued to the individual can be used for verification at point of sale/disbursal of funds.

The work done under the RSBY scheme can also be leveraged. The scheme as on date has enrolled more than 26 million BPL households covering more than 100 million beneficiaries and has been providing them primary healthcare services. The smart card issued under the scheme has details of all the household members, unlike the smart cards to be issued under NPR or UIDAI which as data for a specific individual only. However, the drawback of RSBY is that there are no bank accounts linked to the smart card as the beneficiary is not provided with any cash. The money is directly paid to the participating institutions providing health services to the beneficiaries.

Conditional Cash Transfer

Some 30 countries are experimenting with one or the other form CCTs. For instance, the program called '*Progresa*' (later renamed as *Oportunidades*) was introduced in Mexico as early as in 1997. Brazil introduced the program '*Bolsa Escola*' in 1995 and '*Bolsa Familia*' in 2003. Similarly, many other countries like Honduras, Nicaragua, Ecuador, Dominican Republic, Panama, Peru and Jamaica have their own programs. Some Asian countries like Bangladesh and Philippines too have recently introduced CCT programs of their own. A CCT known as 'Opportunity NYC', funded by the Rockefeller Foundation was launched in New York City in April 2007, indicating such programs have been introduced in the developed nations too. Under the CCT scheme implemented in most of the countries, money is directly provided to the poor families after entering into a "social contract" with the beneficiaries. The cash is paid on the condition that the beneficiary should send the children to school regularly or bring them to health centres. The cash is generally paid to the female member of the family. The burden of the scheme on the exchequer is also not heavy when compared with the benefits accrued to the society.

Looking at the international examples, the impact of CCT schemes with respect to food security has been very encouraging. The increase in nutrition levels depends on several other factors including intra-household food distribution. In Brazil, the *Bolsa Familia* was evaluated from 1995- 2004 by the Ministry of Health and Welfare found that 82.4 percent beneficiaries reported eating better and the prevalence of stunting in children was 29 percent lower compared to non *Bolsa* families. In Mexico, *Progresa* participants reported a 16 percent increase in mean growth rate per year (1 cm) for children who received treatment in critical 12-36 months age (Skoufias, 2005). In Colombia, it was observed that 12 month old boys grew 0.44 centimetres more than those who had not participated in the CCT programme.

Food Stamp

A food stamp or food coupon by nature is direct income support that is given to select beneficiaries for purchase of foodstuff in the market places at market prices. Food stamp can provide alternative to PDS whereby they can put purchasing power directly in hands of the targeted beneficiaries instead of putting grains in the shops as per the existing PDS. Food stamps can help in elimination of the black market. It would reduce the requirement of establishment of new FPS as are acceptable by general stores. The shopkeeper can collect the stamps only after delivering the food grains to the beneficiaries. Food Stamps can be designed in many ways. One of the ways is specifying only money amounts: The stamps then are pieces of paper issued on "secure paper" of a certain value. Recipients are free to decide how they want to spend the money. Alternatively, stamps can take the form of a coupon that would permit purchase of a short list of specified items at discounted prices. The quantities are also stipulated that is, the element of choice is less. It is possible to devise a food stamp system specifying only money values, money and quantity values, qualities of foods and combinations of these parameters. In India food stamp scheme was introduced in Andhra Pradesh in 2004. The table below provides details of such schemes.

National Food Security Bill: Challenges & Options

Particulars	Sri Lanka	Jamaica	Mexico	Andhra Pradesh
Scheme period	1979 till early 1990's	1984 -	Late 1980-	1998-1999 48
Objective	To replace the expensive general food price subsidies and ration coupons	To protect vulnerable groups from full impact of exchange rate movements and reduced public spending	Improving food assistance to the poor and vulnerable groups	To improve delivery of kerosene and rice
Scheme Details	<ul style="list-style-type: none"> Beneficiaries were selected on the basis of family income To cover poorest of the people Choice of food was restricted 	<ul style="list-style-type: none"> Target beneficiaries were pregnant and lactating mothers and children under age of 6 Other included elderly poor and disable people and households having annual income below a threshold level Beneficiaries were registered at health clinics and needed to undergo regular health checkups before receiving foods stamps Choice of food limited 	<ul style="list-style-type: none"> 1980 – Tortibono food program: Replace general subsidy with direct subsidy to buy food Coded card was provided to be read by an authorized store in selected area 1995-96 – Pilot: Cash transfer to buy a food basket Covered 32,000 families Food assistance linked to health and nutritional intervention for pregnant and lactating mother and children Cash allowance programmed in a smart card for a family Card recharged once beneficiary had been certified to have undertaken health monitoring every month 1997 – Progresa: Included education, health and food 	<ul style="list-style-type: none"> Food stamps to be redeemed at FPS Physical presence of the beneficiary holding the card was necessary for issuance of food coupons Coupons distributed in various denominations Coupons guaranteed holder his right to procure specific quantity every month



National Food Security Bill: Challenges & Options

Particulars	Sri Lanka	Jamaica	Mexico	Andhra Pradesh
			Money to purchase food Money for education supplies for young children Basic health care for poor families Transfer of money by cheque or wire transfer	49
Items covered	Rice, paddy, flour, bread, sugar, milk products and locally produced pulses	Rice, cornmeal, skimmed milk and wheat flour	Tortibono food program: Maize	Rice, wheat and kerosene
Impact	<ul style="list-style-type: none"> • Around 75% of stamp value was utilized for rice by the beneficiaries • Modest impact on nutritional indicators • Stamps covered on 20-25% of food needs for a family of four. • Food subsidy came down from around 5% of GDP in 1978-79 to 1.3 % in 1984 	<ul style="list-style-type: none"> • Larger impact on income of poor • Lower cost of the system. Share of government expenditure come down from 3% to 1.6% with respect to the earlier general subsidy program • Reduction in rich household covered from 100% to 6% 	<ul style="list-style-type: none"> • The pilot was successful in all spheres 	<ul style="list-style-type: none"> • Reductions in number of cards by approximately 8 lakhs • Savings in rice (20000 tonnes) and kerosene (7,100 kilo litres) every month
Issues and Challenges	<ul style="list-style-type: none"> • Fall in value of food stamps due to inflation • Ineffective targeting of beneficiary population • Misclassification of income and absence of recourse for appeal and reclassification-major reasons for exclusion of poor • Although subsidies came down as % of GDP, but this was primary due to fall in beneficiary population 	<ul style="list-style-type: none"> • Fall in value of food stamps due to inflation • Difficulty in managing the program due to lack function management information system 		<ul style="list-style-type: none"> • Lack of computerization resulted non removal of duplicate names • Increase in corruption due to high difference in market price and PDS price of rice as Andhra Pradesh was rice surplus state



Annexure IV: Financial Obligations of Centre and State under the NFSB

Financial Obligations of Centre

1. GoI estimates that as per the current buffer norms of a stock of five million tonnes of foodgrains would be kept and the carrying costs would be borne by Central Government as recurring expenditure. *[At the rate of buffer carrying cost for 2011-12 and current buffer norms, the annual estimated carrying cost will be about Rupees two thousand and sixty one crore. This requirement may not cause any additional financial obligation as buffer stocks are already being maintained by the GOI for its ongoing Targeted Public Distribution System].*
2. Every person belonging to priority households and general households, shall be entitled to receive every month from the State Government, under the Targeted Public Distribution System, seven kilograms of foodgrains per person per month for priority households and not less than three kilograms of foodgrains per person per month for general households, at subsidised prices. The difference between the economic cost of foodgrains and the issue prices in respect of the proposed coverage and entitlement will be borne by the Central Government as food subsidy. *At the above proposed coverage and entitlement, the economic cost for the year 2011-12 and the prices of foodgrains as fixed in Schedule I the total annual expenditure on food subsidy under TPDS is estimated at about Rupees seventy nine thousand eight hundred crore.* In case of short supply of foodgrains from the central pool to a State, the Central Government shall provide funds to the extent of short supply to the State Government for meeting obligations.
3. Central Government shall constitute the National Food Commission to perform the functions assigned to it under the proposed legislation and provide for the salary and allowances of Chairperson, other Members and Member Secretary and support staff and other administrative expenses, required for proper functioning of the National Commission. The annual expenditure for this would be known after constitution of the Commission and will be of recurring nature.
4. Central Government shall provide foodgrains in respect of entitlements for welfare programs to the State Governments. The difference between the economic cost of foodgrains and the issue prices in respect of above schemes will be borne by the Central Government as food subsidy and will be of recurring nature. The estimated expenditure is however dependent upon economic cost, central issue price of foodgrains, number of beneficiaries covered and quantities of foodgrains allocated and lifted, and therefore subject to change with changes in any or all of the variables.
5. Central Government shall create and maintain required modern and scientific storage facilities at various levels, the expenditure on which will be of a non-recurring nature and be borne by the Central Government.



Financial Obligations of Centre and State: Cost Sharing

6. Central and the State Governments shall endeavour to progressively undertake reforms in Targeted Public Distribution System. As per the provisions of the Bill “*All other costs incurred under this Act, shall be shared between Central and State governments in such a way that Central Government bears at least 70% of all costs*”
7. Nutritional support to pregnant and lactating women and children below the age of fourteen, currently being delivered through the Integrated Child Development Services and Mid Day Meal scheme will continue to be implemented as per prescribed norms, including norms for cost sharing between Central and State Governments.
 - a. *Assuming a coverage of about 2.25 crore pregnant and lactating women, the expenditure for Central Government and States together would be around Rupees thirteen thousand five hundred crore.* The actual annual expenditure will depend on the number of identified entitled beneficiaries and those actually availing the benefit. The expenditure will be shared between the Central and State Governments in accordance with a scheme to be prescribed by the Central Government.
 - b. Expenditure to be incurred on supply of meals to other groups will be of a recurring nature and will depend upon number of persons identified, and will be shared between the Central and the State Governments, in accordance with schemes to be prescribed by the Central Government.
8. Cost of survey for identification of households will be borne by the Central Government and the State Governments in accordance with the guidelines prescribed by the Central Government. The list of the identified priority households and general households shall be placed by the State Governments in the public domain and displayed prominently, for which expenditure will be borne by State Government.
9. In case of non-supply of the entitled quantities of foodgrains or meal to entitled persons under Chapters II, III and IV of the proposed legislation, such persons shall be entitled to receive food security allowance from the concerned State Government, which shall be responsible for making payment of such food security allowance within such time and manner as may be prescribed by the Central Government. The State Government shall bear all expenses on food security allowance, which will be of a recurring nature.
10. Central Government and the State Governments shall put in place an internal grievance redressal mechanism which may include call centres, help lines, designation of nodal officers, or such other mechanism as may be prescribed by the respective Governments. Cost of setting up internal grievance redressal mechanism will be borne by respective Governments.

Financial Obligations of State

11. State Governments shall identify persons, households, groups, or communities, living in starvation or conditions akin to starvation, for which the expenditure shall be borne by State Governments.
12. For expeditious and effective redressal of grievances of the aggrieved persons in matters relating to distribution of entitled foodgrains or meals under Chapters II, III, and IV of

the proposed legislation, a District Grievance Redressal Officer, with requisite staff, shall be appointed by the State Government for each District, to enforce these entitlements and investigate and redress grievances. The expenditure towards salary and allowances of District Grievance Redressal Officer and other staff, and such other expenditure as may be considered necessary for their proper functioning, which will be of recurring nature will be borne by State Governments.

13. Every State Government shall constitute a State Food Commission for the purpose of monitoring and review of implementation of the proposed legislation and provide for salary and allowances of Chairperson, other Members, Member Secretary, support staff, and other administrative expenses required for proper functioning of the State Commission. Expenditure on State Food Commission will differ from State to State and will be of recurring nature.
14. For Targeted Public Distribution System, it shall be the duty of the State Government to take delivery of foodgrains from the designated depots of the Central Government in the State, at the prices specified in the Schedule I; organize intra-State allocations for delivery of the allocated foodgrains through their authorized agencies at the door-step of each fair price shop; and ensure actual delivery or supply of the foodgrains to the entitled persons at the prices specified in Schedule I. The cost of storage, transport and handling of foodgrains till it is finally delivered to the beneficiary will be borne by State Governments.
15. State Government shall create and maintain scientific storage facilities at the State, District, and Block levels, being sufficient to accommodate foodgrains required under the Targeted Public Distribution System and other food based welfare schemes. Expenditure on creation and maintenance of storage facilities will be of a non-recurring nature and will be borne by State Governments.
16. State Governments may, by notification, assign additional responsibilities to local authorities in implementing Targeted Public Distribution System or other schemes of Central or State Government prepared to implement provisions of the proposed legislation. Expenditure on strengthening of local authorities, required if any, will be borne by the State Governments.
17. Every local authority, or any other authority or body, as may be authorized by the State Government, shall conduct or cause to be conducted, periodic social audits on the functioning of fair price shops, Targeted Public Distribution System and other welfare schemes, and cause to publicize its findings and take necessary action, in such manner as may be prescribed by the State Government. Expenditure on such social audits will be borne by the State Governments. Sub-clause (2) thereof provides that the Central Government may, if it considers necessary, conduct or cause to be conducted social audit through independent agencies having experience in conduct of such audits, expenditure for which will be borne by the Central Government.
18. Setting up of Vigilance Committees at various levels by the State Government for ensuring transparency and proper function of the Targeted Public Distribution System. Expenditure on Vigilance Committees will be borne by State Governments and will be of a recurring nature.

19. Central Government, the State Governments and local authorities shall, for the purpose of advancing food and nutritional security, strive to progressively realize the objectives specified in Schedule III. Necessary efforts for realizing these objectives will be required to be taken by both the Central and the State Governments in their respective areas and they will also be expected to bear the corresponding expenditure.
20. The proposed legislation shall not preclude the Central Government or the State Governments from continuing or formulating other food based welfare scheme. Expenditure for such schemes will be borne by respective Governments, in accordance with provisions of schemes.
21. The Central Government will bear the expenditure in relation to implementation of the proposed legislation in so far as the Union territories are concerned.

Other Ministries and Departments

22. Apart from the estimates given above, the expenditure which will be involved in implementing the proposed legislation will also include expenditure to be met out of budgets of other Ministries or Departments in order to operationalise the provisions of the proposed legislation, besides strengthening of the organizational structure for proper implementation. It is not practicable to make an estimate of such recurring and non-recurring expenditure at this stage.



References:

1. Gulati, Ganguly and Shreedhar, 2011: Food and Nutritional Security In India – A Stocktaking Exercise; ICAR & IFPRI (Feb 2011)
2. T. Nandakumar, Ganguly, Sharma and Gulati, 2010: Food and Nutrition Security Status in India, Opportunities for Investment Partnerships, ADB Sustainable Development Working Paper Series (No. 16), 2010
3. Interim Report of the Task Force on Direct Transfer of Subsidies on Kerosene, LPG and Fertilizer, June 2011
4. Jyoti Gujral and Scott Davenport: Design of the Grain Policy in India
5. Milind Murugkar, Reforms in Food Corporation of India -Case of Wheat Imports, 2006
6. Report of the Task Force on an IT Strategy for PDS and an implementable solution for the direct transfer of subsidy for Food and Kerosene, October 2011
7. UNDP, Discussion Paper: Conditional Cash Transfer Schemes for Alleviating Human Poverty: Relevance for India, April 2009
8. A. Ganesh-Kumar, Ashok Gulati, Ralph Cummings Jr., Foodgrains Policy and Management in India – Responding to Today’s Challenges and Opportunities, March 2007
9. Kaushik Basu: The Economics of Food grain Management in India, September 2010
10. An Assessment of Competition and Regulatory Reform Requirements: ACIAR
11. Options for restructuring the Indian Wheat Market: Steve McCorriston and Donald MacLaren
12. Facilitating legislative and administrative reforms in agriculture marketing by leveraging the competition commission of India: Jyoti Gujral, Piyush Joshi and Anuradha R.V.

